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CHOICE

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DREAMING OF A RED CHRISTMAS

75 wines rated

LCD TVS

Value for money?

Gas BBQs

ANY HIDDEN SNAGS?

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Fourteen digital models tested.

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Tasters gave a wide range of scores for hummus bought in supermarkets.

Dishwashers

Thirteen new dishwashers on test.

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'Tis the season ...

Jane Mackenzie, Editor

...to be jolly, but 'merry' might be a more appropriate word for this issue of CHOICE, which includes our taste test of 75 red wines in time for the party season. This year we tested popular red varietals — shiraz, cabernet sauvignon and merlot — looking for some good-value, great-tasting wines that you should be able to find in any bottle shop around the country. Our expert tasters preferred the shiraz as a group, but try a few of the tested wines yourself and see what you think.

Wine isn't the only seasonal product in this issue. Just in time for summer there are some spanking-new barbecues — quite a cut (and price) above the old bricks-and-grille standby. The food they produce is a cut above too — say farewell to blackened snags, tough steaks and burnt chicken wings on these gleaming metal outdoor kitchens.

If you're thinking of Christmas presents (maybe to yourself) and feeling extravagant, this issue has reports on LCD TVs and kitchen benchtop mixers. And looking ahead, there's a guide to buying a backpack for the new school year.

On the darker side, we've tested mosquito repellents for one of the less delightful aspects of summer, and you'll also find a guide to your shopping rights — just in case anything goes wrong after you've spent all that money. And finally, if you're wondering if you can combine Christmas parties with driving home by investing in a breathalyser, we'd say 'don't'. We didn't find one accurate enough to be worth the money.

From all at CHOICE, enjoy the parties and the festive season — and take a cab.

FOR MEMBERS ONLY

www.CHOICEextra.com.au

The free website exclusive to CHOICE magazine subscribers, with a four-year index and links to many articles online.

Look out for the symbol in magazine articles — it indicates there's extra info on CHOICEextra. This month you can find out lots more about wine.

To use this free website you'll need to log in with your subscriber number, which is the number directly above your name on the mailing label that comes with the magazine.

CHOICE best value SHOPPER

All you need is the model name and number you want to buy, the price you want to beat, and your CHOICE subscriber number (from the mailing label with the magazine). CHOICE Shopper is available to personal subscribers only.

Call 1300 360 655

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Photo: Photolibrary

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UPDATES

STORING COFFEE

CHOICE, August 2005

In our article on automatic espresso machines (CHOICE, August 2005) we reported our coffee-tasting experts as saying that coffee beans should be stored "...where it's cool and dry, at room temperature — not in the fridge or freezer."

However, one of those experts, Lance Witham from Witham's Coffee and Tea, points out that not everyone agrees with that — including him. He thinks coffee should be stored in the freezer, well wrapped (in a resealable zip-lock bag, for instance), so the oils containing the flavour don't go rancid.

It's not unusual for experts to disagree — see which method gives the best results for you at home.

Cordless phones test

Cordless phones are a popular Christmas present, so we were aiming to publish this year's test report in the December issue.

However, we also wanted to include some recently released models, which meant the testing couldn't be finished in time. While we won't be able to publish the latest results on 14 digital models (without answering machine) from **BINATONE, DORO, GE, ORICOM, PANASONIC, SANYO, TELSTRA** and **UNIDEN** in the magazine until the January/February 2006 issue, you'll be able to read the report on www.choiceextra.com.au from mid December (go to 'Cordless phones' in the index).

GENE ROSS

WOULD YOU LIKE WARRANTIES WITH THAT?

When you're shopping for Christmas presents or hitting the January sales, you'll probably be asked time and time again whether you'd like to take out an extended warranty. What should your answer be?

CHOICE *Money & Rights* reports in its latest issue that in some cases an extended warranty can be worthwhile — in particular, for items that are expensive to buy, have poor or unknown reliability records and are expensive to repair or replace (plasma TVs and laptop computers are current examples). However, in most cases it can be an unnecessary expense, adding 5–15% to the cost of your purchase (and sometimes a big chunk of that goes to the retailer as commission).

In fact, for many products it's questionable whether an extended warranty provides any real benefit. Here's the set-up with warranties:

- A manufacturer usually offers a standard warranty, say for a year or longer, depending on the item.
- If something goes wrong outside that warranty period you may still be covered by statutory (legal) rights (in the Trade Practices Act) — see *Shop till you drop* on page 36 for a full rundown of these.

If a fault isn't covered by either of these warranties, of course you're up for paying for the repair yourself if you don't have an extended warranty. But these days it may not be worth repairing an appliance if it's a few years old. Prices of some electronic goods in particular (DVD recorders, digital cameras, camcorders, etc) have fallen lately, so it might be more cost-effective to upgrade to the latest model. The money you'd have paid for an extended warranty could well cover a much higher proportion of the cost of a new appliance than it did when you bought the original.

In addition, most appliances are fairly reliable these days, so even with major, expensive appliances that you'd expect to last several years — such as a fridge or a washing machine — you might reasonably decide to take the chance and save your

Broadband the winner in satisfaction stakes

An ADSL broadband connection is the way to go to avoid frustration with your internet service, according to the latest *Computer* CHOICE survey. The magazine surveyed 3418 readers in July 2005 about their satisfaction with their internet service provider (ISP).

The results showed that the number of respondents with broadband has leapt from around 16% to 51% since the last survey in 2003. Only 47% of respondents now use a dial-up service. Not only are more respondents using broadband, but they're pretty happy with it if it's an ADSL connection. Cable broadband accounts for 16% of connections. Overall satisfaction with cable was generally lower than ADSL, but still better than dial-up. Not surprisingly, this is largely because respondents are happier with ADSL and cable connection speeds.

GENE ROSS

It appears wireless internet is still in its early stages — less than 1% had used a portable wireless internet connection.

In survey respondents' choice of ISP, nothing much has changed in the last two years. Most people still use Telstra (29%) and Optus (14%) to connect to the internet, while other popular choices

GENE ROSS

money. CHOICE regularly publishes brand reliability data for major appliances in our test reports.

There are also exclusions to watch for in extended warranties, and some policies have hidden costs and inconveniences. For example, will you have to cover freight, transport or callout fees if you need repairs? And how secure is the extended warranty — is it backed by the manufacturer, an insurance company or your local retailer?

For more about your warranty rights, questions to ask before deciding on an extended warranty, policy traps to watch out for and ways to get a better deal, subscribe to CHOICE *Money & Rights*. Call 1800 069 552 toll-free or see the label carrier flyer that came with this magazine.

are OzEmail (7%), iiNet (5%) and TPG (5%). Of this group, iiNet had the highest satisfaction rating, while Westnet had the highest overall rating of all the ADSL providers.

In the bush, choices are limited and respondents tended to choose dial-up because, in many cases, broadband options don't exist.

Only 14% of respondents pay a set fee for a number of hours per month. Most people pay a set fee for unlimited access per month (36%) or a download limit per month (35%).

In general, the survey shows that true satisfaction with an ISP is not just a product of blistering speed. Users are happy with an ISP that provides accurate information on the real speed of a connection to the internet at a reasonable price.

If you'd like to subscribe to *Computer* CHOICE, call 1800 069 552 toll-free, or go to www.choice.com.au/magazines.

Alarm alert

GENE ROSS

While it's important we have smoke alarms, we shouldn't rely too heavily on them, reports the October issue of CHOICE *Health Reader*. Psychologists at Victoria University found that the usual noise made by Australian smoke alarms — a relatively high-pitched sound — isn't always heard well by certain people. The study, published in the *Australian Journal of Psychology*, found those more at risk of not hearing smoke alarms are:

- Older people — because sensitivity to high-pitched sounds tends to decline in older age.
- Children — they were very likely to be woken by a voice alarm, but had only a 50% chance of being woken by the standard high-pitched alarm signal of the same volume. *Health Reader* suggests that parents make sure they can hear smoke alarms not only in or near their own bedrooms, but also in or near children's bedrooms.
- People who have been drinking — a low-pitched alarm sound and a voice alarm both worked significantly better at waking them than the high-pitched beeping. Responsiveness to alarm sounds decreased as blood alcohol levels increased.

Also in October *Health Reader*:

- A UK study has found that for getting rid of head lice, a treatment involving ordinary hair conditioner and a fine-tooth comb to comb the lice out of children's hair is more effective than topical delousing formulations (such as insecticidal lotions or shampoos) — although more time-consuming.
- Not only can exercise help prevent breast cancer, it may also help the chances of a full recovery. US researchers have found that, compared with women with breast cancer who didn't exercise, those who went walking for one to three hours a week cut their risk of dying from breast cancer by 20%. And increasing this to three to five hours of weekly walking reduced the risk further.

If you'd like to subscribe to CHOICE *Health Reader*, call 1800 069 552 toll-free, or go to www.choice.com.au/magazines.

Can you help?

CEILING INSULATION

We'd like to hear from you about any issues or experiences you've had with ceiling insulation, especially if you've had it installed (or installed it yourself) in the last three years. For example:

- Which insulation material did you use?
- Was it easy to get advice about the different types and their pros and cons?
- How happy are you with the insulation's performance?
- Were you satisfied with the job done by the tradespeople who installed it?
- Have you had any problems since the insulation was installed?
- If you installed it yourself, how easy or difficult was it?

Please write to **Insulation** at CHOICE, 57 Carrington Road, Marrickville 2204, or email insulation@choice.com.au by 15 December 2005. Thanks for your help.

CORRECTION

INVERTER AIR CONDITIONERS

CHOICE, October 2005

The figures for yearly running costs published in the table on page 43 were based on rated power consumption for heating rather than the consumption we measured. None of our scores is affected by this. Here are the figures based on measured consumption:

Brand / model (in rank order)	Overall score (%)	Yearly running costs*
PANASONIC CS-E21DKRS / CU-E21DKR	82	288
DAIKIN FTXD60BVMA8 / RXD60BVMA/9	77	296
MITSUBISHI MSZ-A24YV / MUZ-A24YV	76	312
TOSHIBA RAV-SM801KRT-E / SM800AT-E	65	355
BLUEWAY AS-24VR	63	310
SANYO SAP-KRV243GJH / SAP-CR243GJH	63	329
AIRWELL XLLDCI24RC / GCLDCI24RC	62	329
CARRIER H53PQV080X	60	365
TECO LS2504V / LT2504V	58	352
ELECTROLUX ESG21HRIA	57	368

* *3000 kWh cooling plus 3000 kWh heating at 15 cents/kWh.*

UPDATE

CDMA ROAMING

CHOICE, November 2005

In our test report on CDMA phones (CHOICE, October 2005), we said that New Zealand was the only overseas country where you can use your CDMA phone. **TELSTRA** has since established roaming agreements with a number of other countries. So if you have a **TELSTRA** CDMA phone you can now use it in China, Hong Kong, Indonesia, Israel, New Zealand, South Korea, Taiwan and Thailand.

Check www.telstra.com.au/mobile/products/overseas/roamingoutbound.cfm for details.

Miraculously misleading health claims

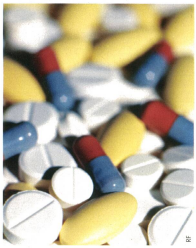
Have you ever been sceptical or outraged at an advertisement's claim about miracle weight loss, unheard-of health benefits or the like? If so, you can complain about it. The Therapeutic Goods Advertising Code Council (TGACC) exists to stop ads from making misleading health claims.

Established over 30 years ago, the code is intended to make sure therapeutic goods are promoted in an honest and socially responsible way. The council maintains and reviews this code, and is made up of representatives from government agencies, consumer groups, manufacturers and other stakeholders.

To help ensure advertisers stick to the code, the council has a complaints resolution panel (CRP). It oversees complaints made about advertising for therapeutic goods on TV, radio, cinema, outdoor displays, in magazines and newspapers and on the internet.

In Australia, prescription medicine can't be advertised directly to consumers, so essentially what the code covers is ads for over-the-counter medication such as painkillers, complementary medicine like vitamins, other supplements — and 'miracle' marketing.

The CRP deals with complaints about advertising that appears to violate the principles of the code. These include ads that make unrealistic claims about a product's effectiveness, encourage self-diagnosis or treatment of potentially serious illnesses, promote excessive use of a product or say it has no side effects or has 'miraculous' properties.



RF

Having dodgy information passed off as 'scientific' or products endorsed by medical professionals also means an ad can breach the code. Complaints can lead to an ad being modified or withdrawn and, in some cases, a retraction being printed in a daily newspaper.

If you've seen an ad that you think falls into one of these categories or you'd like to know more about the complaints process, go to the TGACC website at www.tgacc.com.au. Note that complaints can be made anonymously.

Can you help?

CHOICE *Money & Rights* is researching articles on the following topics and would like to hear about your experiences (by the end of December).

REVERSE MORTGAGES

Have you borrowed money through a reverse mortgage or home reversion scheme, or are you thinking of doing so? What are or were your reasons and what have your experiences with it been? Email to reversemortgage@choice.com.au or write to us at Reverse mortgages, CHOICE, 57 Carrington Road, Marrickville 2204.

DIY SUPER FUNDS

If you're considering setting up a self-managed ('DIY') super fund, please send an email to diysuper@choice.com.au, fax (02) 9577 3377 or write to the above address, telling us a little about your financial situation and the reasons you'd consider setting up your own fund.

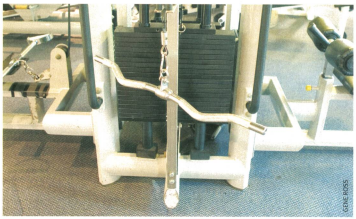
Thank you for your help.

CORRECTION

SABCO MOPS, CHOICE CUTS, October 2005

The **SABCO Super Swish Xtra** cleaning system doesn't require disposable wipes, as we implied in the caption to the photo that accompanied our article on disposable cleaning wipes. The refills referred to are for the **SABCO Smart Mop**. According to the manufacturer, the **Super Swish Xtra** is specifically designed to minimise its impact on the environment. It comes with two reusable microfibre cloths (one for dry and one for wet cleaning) designed to eliminate the need to use chemicals.

yourletters



GENE BOOS

Unfit policies?

While searching the Yellow Pages for gyms in my area, I came across **FITNESS FIRST**. I rang them to find out how much an annual membership was. They refused to give me any information until I'd given them my name and telephone number, which I declined to do.

I was then handed to the club manager who refused to give me pricing information unless I visited the club. He sounded contemptuous when I said I'd be unlikely to join if they couldn't provide me with the information I wanted.

Other gyms I rang had similar policies, with all but one refusing to provide information until I'd handed over my name and telephone number. However, **FITNESS FIRST** was the most unhelpful.

I've exchanged several emails with **FITNESS FIRST**, but the company still insists I visit the club in person. I've argued that I don't have the time and resources to visit all potential clubs in my area, but will evaluate them on price, facilities and helpfulness of their staff. I presume they would like to have me on their premises to apply aggressive selling techniques.

I think this practice raises a consumer rights' issue, namely the right to access information about an organisation's services.

Jonathan Stuart
Castle Hill, Victoria

*We contacted **FITNESS FIRST**, which apologised if Jonathan felt he was spoken to rudely. The club said it asks potential clients to visit its facilities so they can be shown around, and takes their telephone number to call and confirm their appointment. The club says if someone insisted they couldn't come in, it would give them the range of prices for the different packages. However, this didn't happen with Jonathan.*

*In our earlier survey of people's experiences with gyms (CHOICE, July 2004), a common complaint (experienced by 14% of respondents) was an invitation to inspect the facilities, then feeling pressured to sign up. **FITNESS FIRST** was one of two gym chains for which that figure rose to above 30%.*

The consumer rights referred to in the letter are from the United Nations guidelines for consumer protection — specifically, the right "to be given facts needed to make an informed choice". To find out more about these guidelines, go to www.choice.com.au, type 'consumer rights' in the search box and click on 'The eight basic consumer rights'.

More dodgy deals

The letter about salespeople with unscrupulous tactics (CHOICE, October 2005) has prompted me to write to mention my experience of the ruthless sales practices of some telemarketing personnel.

As the Nurse Manager in a small nursing home, my staff and I regularly contact companies that have allowed telemarketers to phone our residents (many of the people living here have their own telephone with an individual number).

Some residents have been asked to donate sums of money from their pensions to relief agencies, or buy raffle books which they can't possibly hope to sell. One resident was recently pressured into signing up for an eight-week first-aid course — a noble undertaking, but not for a fragile 85-year-old! This woman even sent a cheque off for the course, but fortunately staff became aware of what she'd enrolled herself in.

While I understand that telemarketers have to earn a living, the continuous phoning and requests for donations and so forth is extremely upsetting for our residents.

Name and address withheld

If the residents have individual phone numbers it's understandable that telemarketing companies could ring them without realising they're in a nursing home, but it's disappointing to hear that salespeople continue to pressure people for money once it's clear they're elderly or frail. To avoid getting junk calls and mail, register your phone number and address with the Australian Direct Marketing Association's 'Do Not Contact' service.

THUMBS UP!

Donald Smith of Dalkeith, WA, reckons VALE PAINTS deserves a 'Thumbs up' for its prompt response, after a $7 can of the brand's paint exploded, spraying his kitchen with brown paint. VALE PAINTS agreed to foot the bill to repaint the entire room.

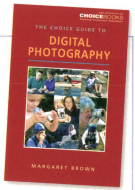
Sue Gredley of Adelaide was halfway through a book when she realised it was missing 20 pages. She rang GRIFFIN PRESS and the Quality Assurance Co-ordinator there posted her a new copy of the book, which arrived the next day. She'd like to award them a 'Thumbs up' for their efficiency.

LETTER OF THE MONTH

We want to hear from you — your experiences help our research and often let other readers know about scams and rip-offs. Positive outcomes you've had to a complaint you took to a manufacturer, retailer, importer or tradesperson interest us, too. Address these letters to *Thumbs Up* at the address on page 2.

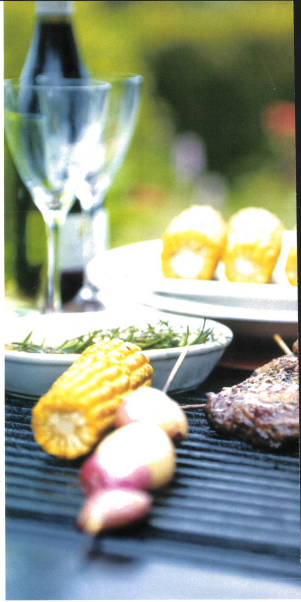
To thank you for writing to us, *Your Letters* awards a prize of a CHOICE book to the 'Letter of the month'. This month's winner, Jonathan Stuart of Castle Hill, Victoria. receives *CHOICE Guide to Digital Photography*, or any other book of his choice from Consumer Bookshelf, page 48.

We're sorry we don't have the resources to answer all your letters personally, and in the magazine we may edit them or print only an extract. See page 2 for how to reach us.



Backyard barbie

Can these gas barbecues cook up a storm to impress your guests?



IN A NUTSHELL

- **Seven of the eight** *barbecues on test are pretty good, with the top four making it into the* What to buy *list (see below).*
- **None is easy to** *assemble, so allow time (most of a day) to do it. If you think you'd find it too hard, some retailers or manufacturers will supply it assembled (for an extra cost).*

A barbecue used to be a simple structure — a block of bricks with a grate over it, fuelled by newspaper and broken bits of wood; or the three-legged kettle variety, invariably knocked over by the family dog in the middle of cooking. The fare wasn't that complicated either — blackened snags and the odd steak or chop, accompanied by a slice of buttered white bread, a dollop of tomato sauce and, if you were really lucky, a salad garnished with tinned pineapple.

Nowadays barbecues are far more complex, with a host of features capable of cooking (as opposed to burning) a variety of dishes, including roasts, baked fish and fried rice. Incredibly, we found models priced up to almost $8000. You'll probably be pleased to know that none of the ones in this test are that pricy. Still, we think their price tags — between $600 and $1000 — are a fairly sizable sum to spend on a barbecue, so you'd want to be sure you're getting a good one.

All the models in this test are four-burner LPG trolley barbecues with a hood. Some also come with a side burner, useful for cooking rice, vegies or stir-fries (see the table for model details). They also have holes for a rotisserie spit to be attached, though you'd have to buy that separately.

In the cooking performance test we rated these barbies on their ability to cook barbecue classics — sausages, steak and marinated chicken wings — as well as their roasting abilities. For ease of use we assessed the level of difficulty attaching the gas bottle to the barbecue, how user-friendly the barbie is to cook on and clean up afterwards and how easy it is to use the controls and move. We've also included some safety and cooking tips.

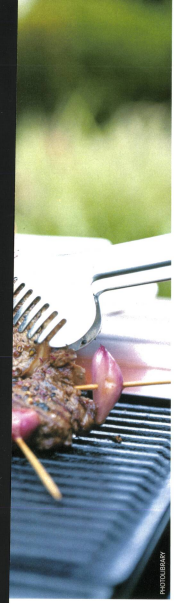
WHAT TO BUY

BEEFEATER Discovery Series 4 Burner	$714
JACKEROO Professional 4 SX ◀ BEST BUY ▶	$649
GASMATE Stylus Classic	$899
PHOENIX 4 Burner	$799

TROLLEY TRIALS

Trolley barbecues are heavy — the models on test weigh around 60 to 80 kilos — so you'll need help lifting one into your car (and it may not fit — you might have to get it delivered). For those not mechanically minded, a trolley barbecue can be a challenge to assemble. Even our experienced technician found he needed at least half a day to get the job done for some models. We suggest allowing yourself most of a day to set it up if you've not done it before.

If you don't have the time or inclination to put it together yourself, see if you can buy a preassembled one or have it assembled at your home. The manufacturers we called said they or their retail distributors offer delivery, preassembly and/or assembly onsite. It costs extra (one manufacturer quoted around $80, while another said it could be anything from $70 to $140,


PHOTOLIBRARY

Sizzle those snags safely

- Surfaces, side trays and controls on metal barbecues can get hot enough to burn you, so check them before gripping or putting your hand on them.
- When cooking with the hood down, the external hood surface can get really hot. All but one of the barbecues on test reached external temperatures in excess of 100°C with their hood closed. The exception is the **BUNNINGS**, the only double-skinned hood in this test, which reached 76°C.
- There's some evidence that burning or charring meat creates chemicals that may increase cancer risk, although the amount you'd have to eat before it's dangerous to your health isn't clear. If you want to play it safe, don't overcook the surface of meat and don't eat burnt or charred bits.
- Store gas cylinders in the garage or shed, not inside your home.
- Always keep LPG cylinders upright — don't lay them on their side.
- Take care if you're transporting a gas cylinder in your car. Secure it well so it can't roll around — wedge it into the boot or tie it up with a strap. Don't transport it in the body of the car or leave it in the car when you're not moving it.
- Replace gas cylinders if they appear damaged or rusty. Check them for leaks by spraying or brushing a soapy water solution onto them — bubbles will form if gas is escaping. You can also check hose ends and regulator connections this way. It's important to regularly check the whole barbecue set-up, as well as the cylinder itself.
- Check hoses to make sure they haven't perished. Replace hoses every five years.
- Check connections to make sure they're clean and fit snugly.
- Never use a barbecue on the wrong kind of gas. The data plate on the side of the barbecue should state the correct type of gas to use with your model.
- Don't barbecue in a confined space or indoors — the fumes can be toxic and you could start a fire.
- Make sure there's plenty of clearance around your barbecue to avoid it becoming a fire risk.
- After using your barbecue, remove all the excess fat so it doesn't end up a fire hazard.
- Don't use gas barbecues when it's really windy, as the burners might blow out, causing a serious gas leak or an explosive ignition.
- All gas cylinders should be tested every 10 years. You can tell how old your cylinder is by looking at the date stamped on the collar. To get it tested look in the gas cylinder testing section of the Yellow Pages (also see *Gas refills*, page 11).

depending on the complexity of the barbecue) but it could be worth it if you're not a DIY whiz.

The **BUNNINGS Jumbuck Deluxe**, the **EVERDURE Norfolk** and the **ULTIMATE Esperance** were the most difficult to assemble. Some models also had pieces missing or not working. This happened on four out of eight barbecues and so suggests to us we're not likely to be the only buyers affected: be prepared for an annoying trip back to the shop to pick up more pieces.

The gas bottles need to be hooked on the barbecue or lifted into a cabinet, and that wasn't easy to do on any of them, as the cylinders can weigh around 18 kg when full. The models with cabinets were the hardest to fit the gas bottle into.

THROW ANOTHER SHRIMP ON THE BARBIE

So once you've finally got them up and running, how do these models go cooking the food? Overall, very well — the **BEEFEATER** and **JACKEROO** cooked exceptionally well, and the **GASMATE**, **BUNNINGS**, **PHOENIX** and **ULTIMATE** received a very good score.

Our test is a tough one. When cooking the sausages, steaks and chicken wings we don't move the food around, just turn it over once, as we're essentially testing how evenly the cooking surface heats. Normally you'd move meat that's overcooking to a cooler part of the plate. Because of this, even the barbecues with lower scores would do better if you moved the food around. But it's reasonable to put them through a fairly tough test that sorts out the good from the not quite so good, particularly at these prices.

When you're cooking food like steak, sausages and chicken wings, keep the hood open for best results. The hood comes into play when you want to use your barbie to roast, or heat it quickly after you light it up. It's worth noting that all but one of the tested barbecues were excellent at roasting a chicken (with the **BEEFEATER**, **GASMATE**, **ULTIMATE** and **CORDON BLEU** scoring 100%). The exception was the **EVERDURE** — it just wasn't quite so good. See *Roasting a chook*, page 11, for tips on impressing everyone with your superb roast chicken.

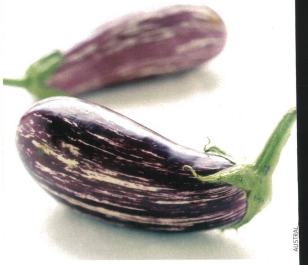
What to look for

IN A BARBECUE

- A large cooking area with half grill and half hotplate — most of the models tested have this, while others have different proportions of grill vs hotplate.
- Hotplates and grills can be made of stainless steel or bare or coated cast iron. Stainless steel is sturdy and resists rust. Bare cast iron is sturdy and sears meat beautifully, but you have to season it constantly with cooking oil to fend off rust. You can also get enamelled or porcelain-coated hotplates and grills, which are rustproof and easy to clean, but the coating can eventually chip.
- Good access to the whole cooking area. Sometimes a hood can restrict access with its side panels and warming rack. The **GASMATE** and **PHOENIX** are handy in that you can swing their warming rack out of the way. Also check your pots can fit onto any side burners.
- A hood should open up far enough so it doesn't direct smoke into your face.
- A thermometer in the hood — however, on all but the **BUNNINGS** and the **JACKEROO** they weren't accurate, with errors ranging from 20°C to 85°C. Once you'd worked out which measured temperatures give you the best results they could still be usable, but for barbecues at this price it doesn't seem too much to ask to have an accurate thermometer.
- Handles should have enough space so you don't burn your hand on the hot panel behind them.
- The fat tray should be easy to remove and replace and be self-centring so it catches all the fat.
- Controls should be well-labelled, preferably graded, and have positive stops at both the low and high position. Check you can read them without having to bend over all the time.
- Piezo ignition (you press a button or turn the gas knob to get a spark) or battery-operated ignition, activated by a button, make lighting easier.
- A double-skinned hood will reduce the external temperature, making it less likely you'll get burnt if you touch the outside (see *Sizzle safely*, page 9).

IN A TROLLEY

- Large side trays are useful for placing food and utensils close to hand, but they get very hot in places so watch where you put plastic bags, containers and utensils, as they can melt.
- There's a wide range of trolleys on the market so choose one with the features you want, such as a cupboard or side burner — useful if you want to cook rice, potatoes or wok-fried vegies. On the downside, it can take up valuable 'bench' space, especially if you can't cover it.
- If you intend to move the trolley, even only occasionally, four castors (with brakes) are ideal. If the trolley only has two wheels, make sure it's not too heavy for you to lift the other end for moving, and check there are no sharp edges where you grip it.
- You need to tighten the bolts constantly on wooden trolleys. In our experience of CHOICE tests, metal trolleys don't seem to have this problem.
- Stainless steel trolleys are harder to keep looking good due to smudges and fingerprints. However, ordinary metal trolleys may start to rust in some environments (in salt air, for example).
- Trolleys come in different heights, so choose one that's comfortable for you.



Recipes for the barbie

ROASTING A CHOOK

Ingredients

1.6 kg chicken

Cooking method

- Preheat the barbecue for 10 minutes on medium heat using all four burners with the hood closed.
- Prepare chicken by removing giblets, neck and interior fat. Wash and dry the chicken, and truss it by tying the legs together and tucking the wings under. (At this stage stuffing can be added either in the cavity or under the skin.)
- Place the chicken breast side down onto a rack in a heavy-based, shallow baking dish.
- After preheat time, turn off the two inside burners and place the baking dish in the centre of the barbecue. This is called the indirect method (two outside burners on only).
- Cook with the hood closed for approximately 1 hour 15 minutes (45 minutes per kg), or until cooked. Add 15 minutes if the stuffing contains meat (such as pork).
- Turn the chicken over halfway through the cooking time, and shield any areas that are cooking faster than others (such as wings, drumsticks and breast) with a piece of foil.

Avoid the temptation to open the hood often as this will result in a rapid loss of heat. The chicken should be evenly cooked and browned, with the skin crisp and golden brown, and the meat tender and moist.

BARBECUE-GRILLED VEGETABLE SALAD

Ingredients

1 large red onion, cut into wedges
6 capsicums (red, green and yellow) with seeds removed and cut into 2 cm wide strips
4 zucchini (green and yellow) cut lengthwise, 5 mm thick
4 baby eggplants, cut lengthwise, 5 mm thick
1 bunch asparagus, blanched for two minutes and drained

Dressing

¼ cup olive oil
2 tablespoons balsamic vinegar
2 tablespoons lemon juice
1 clove garlic
2 tablespoons fresh oregano
Salt and pepper to taste

Combine all dressing ingredients in a jar and shake well.

Method

- Preheat barbecue for 10 minutes on medium, with the hood closed.
- Lightly oil the hotplate.
- Cook the vegetables with the hood open, turning occasionally until they're browned and tender.
- Combine all vegetables in a large bowl, pour over dressing and mix well.
- Serve warm on a large platter.

GENE ROSS

Gas refills

Cylinder exchange schemes are a safe way to get your gas bottle refilled. **SWAP'n'GO** is the biggest such scheme and operates in over 6000 outlets around the country. The idea is that you leave an empty cylinder (your own or one of theirs) and take a full one in exchange. When it's empty, you can keep it and have it refilled or swap it again. Thus you enter the scheme with a cylinder and leave with one, but it's unlikely to be the same one. If you don't already own a cylinder, you can buy a **SWAP'n'GO** one. If you have one but it hasn't been tested and stamped in 10 years, you get a reduced rate on a new **SWAP'n'GO** cylinder.

The empty cylinders are collected from outlets and the company conducts safety checks, cleans them, refills them and sends them out again. Old cylinders undergo the standard 10-year recertification test, where the valve is replaced if necessary. Rusty or damaged cylinders are recycled as scrap metal.

Based on prices we saw, it's more expensive than getting your own cylinders refilled: **SWAP'n'GO** charges around $29 for a 8.5 kg cylinder, but for our test we paid $12 for regular refilling. Some people prefer to fill their own cylinders as it's cheaper, but nowadays it's becoming harder to find places where you can refill them yourself. On the plus side, **SWAP'n'GO** offers safety benefits missing from the regular refilling process. Service station owners find it handy because they don't need staff filling bottles, and it's quicker for you — you don't have to wait for the refill.

SWAP'n'GO

Profiles

Models in the *What to buy* list are profiled in rank order.

BEEFEATER DISCOVERY SERIES 4 BURNER

Price: $714

GOOD POINTS

- Excellent cooking score — 100% for all tested foods except sausages (it scored 80% for them, which was the highest in the test).
- Large fat tray.
- Good open access to food when the warming rack is removed.

BAD POINTS

- Difficult to manoeuvre, having two fixed wheels (as well as two castors), no handles and an uncomfortable grip.
- Small finger grip on control knobs.
- The assembly instructions lack detail.

JACKEROO PROFESSIONAL 4 SX

Price: $649 BEST BUY

GOOD POINTS

- Excellent result for roasting a chicken and cooking chicken wings and steak.
- Good open access to food if the warming rack is removed.
- Good instructions and not too difficult to assemble.
- Fairly accurate hood thermometer.

BAD POINTS

- Difficult to manoeuvre, having two fixed wheels (as well as two castors), no handles and an uncomfortable grip.
- The small fat tray needs to be removed and emptied regularly.

GASMATE STYLUS CLASSIC KL015/SS4

Price: $899

GOOD POINTS

- Excellent result for roasting a chicken and cooking chicken wings and steak.
- Good open access to food — the warming rack swings out of the way.
- Its four castors make it easy to manoeuvre.
- Fairly easy to assemble.

BAD POINTS

- Labelling on controls isn't positioned well.
- The small fat tray needs to be removed and emptied regularly.
- Poor assembly instructions.

Brand / model (in rank order)	PERFORMANCE 1 Overall score (%)	2 Cooking score (%)	3 Ease of use score (%)	FEATURES Side burner	Ignition type	Cupboard in trolley	SPECIFICATIONS Can be converted to natural gas	Gas consumption (g / hr)	Dimensions (W x D x H, cm)
BEEFEATER Discovery Series 4 Burner	84	95	68		Piezo		✓ (A)	1274	150 x 61 x 117
JACKEROO Professional 4 SX	81	90	68	✓	Piezo	✓	ns	1152	161 x 63 x 118
GASMATE Stylus Classic KL015/SS4	79	86	68	✓	Battery-operated	✓		1168	173 x 63 x 115
PHOENIX 4 Burner PHX4B	78	83	70		Piezo		✓ (A)	1176	166 x 66 x 117
ULTIMATE Esperance	76	83	66	✓	Piezo		✓ (A)	1216	163 x 53 x 119
BUNNINGS Jumbuck Deluxe BB10412A	75	84	62	✓	Battery-operated	✓	✓ (A)	1346	155 x 59 x 128
CORDON BLEU G4CDBH	74	78	68		Piezo	✓	✓ (A)	1234	177 x 63 x 113
EVERDURE Norfolk	64	64	64	✓	Battery-operated	✓	✓ (A)	1086	160 x 63 x 122

PROFILES: GENE ROSS

PHOENIX 4 BURNER PHX4B

Price: $799

GOOD POINTS

- Excellent result for roasting a chicken and cooking chicken wings and steak.
- Relatively easy to assemble and fairly good instructions.
- Good open access to food — the warming rack swings out of the way.
- The easiest model to use and clean.

BAD POINTS

- Comparatively poor result for cooking sausages.
- Heavy, and only having two fixed wheels and no handles means you have to lift one end to move it, though the tray is OK to grip.
- The small fat tray needs to be removed and emptied regularly.

IF YOU THOUGHT THESE WERE EXPENSIVE...

We asked a few manufacturers what the difference would be between a barbecue around the price range of the models on test ($600–$900) and one around the $2000 mark.

Some said you'd get higher-quality materials — stainless steel was mentioned several times — and design. In addition, you'd be likely to get extra features and accessories, such as five or six burners and maybe a wok burner. One said assembly would be included in the price, and another that the barbecue would have a longer life expectancy and warranty, and better workmanship.

You can check some of these things when you're buying, but it's hard to be sure about the quality of materials and design, and life expectancy can hardly be guaranteed. $600–$900 is already a lot of money for a barbecue — we'd suggest you evaluate very carefully what more you seem to be getting for a model costing $1000 or more than that.

WHAT ABOUT THE REST?

- The **ULTIMATE Esperance** has the same cooking score as the **PHOENIX** but isn't quite as easy to use. It's easy to get to the food with the warming rack removed, but its two fixed wheels and two castors mean it's difficult to manoeuvre, and you need to bend to see the controls.
- The cheapest model in the test, the **BUNNINGS Jumbuck Deluxe** is difficult to assemble and tough to manoeuvre, partly because you need to grip the side tables to do so, which hurts your hands. Another problem is the hood, which tends to direct smoke into your face. On the plus side it got a very good cooking score, plus has the lowest exterior hood temperature and an accurate thermometer.
- The **CORDON BLEU** is relatively easy to assemble. With the warming rack removed it's easy to access food and it roasted chicken and cooked chicken wings very well. However, it was comparatively poor at cooking sausages, and is hard to manoeuvre.
- The **EVERDURE Norfolk** is very easy to manoeuvre, and it's also easy to remove the large fat tray and access the food if you remove the warming rack. However, its cooking score is the lowest in the test (64%; the next lowest is 78%, the highest 95%). Its hood directs smoke into your face, the controls aren't labelled well and are uncomfortable to grip, and it took a long time to assemble.

Warranty (years)	Origin	Manufacturer / distributor	Price ($)*
–3 **(B)**	China	Beefeater Barbecues	714
	China	Kmart	649 **(D)**
–5	China	Sitro Group	899
–5	China	Barbecues Galore	799
	Australia	Ultimate Distribution	849
	China	Bunnings	599
(C)	China	Barbecues Galore	699
–5 **(B)**	China	Shriro	999

* *Prices are recommended retail, as provided by manufacturers in Oct/Nov 2005, unless noted otherwise.*

ns *Not stated.*

(A) *You have to buy a conversion kit, which must be fitted by a professional.*

(B) *Various parts have different warranties.*

(C) *Five years on the barbecue frame and hood if purchased with the barbecue.*

(D) *The price we paid in August 2005.*

1 Overall score

- Cooking score: 60%
- Ease of use score: 40%

2 Cooking score

This is based on the results for cooking:

- Steak.
- Sausages.
- Marinated chicken wings.
- Whole roast chicken.

All were weighted equally.

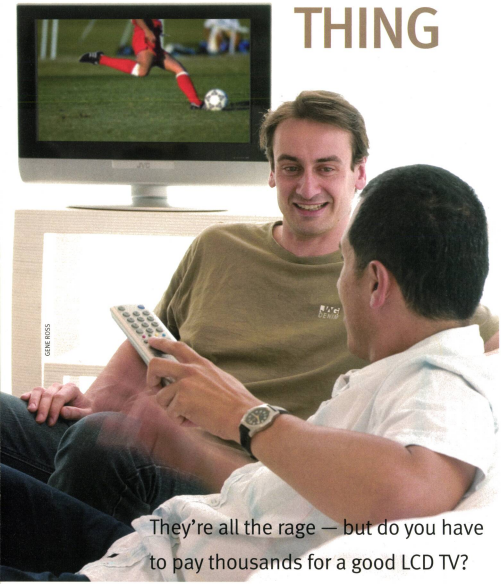
3 Ease of use score

The following ease of use factors were weighted equally:

- Ease of cooking (access to food, keeping smoke out of your face, etc).
- Mobility.
- Using the controls.
- Cleaning.
- Fitting the gas bottle.

We didn't include assembly in the scores as you're likely only to do it once, but as noted elsewhere, it can be difficult.

THE LATEST THING



GENE ROSS

They're all the rage — but do you have to pay thousands for a good LCD TV?

IN A NUTSHELL

Any of the top eight *of the 11 LCDs in this test are good-quality TVs, but the four in the* What to buy *list have the best picture quality.*

To take full advantage *of the widescreen format and LCD's higher resolution you'll need to buy a digital set-top box as well* — see Why buy an LCD TV?, *right.*

Walk into any electrical appliance showroom and you'll notice the most prominently displayed TVs are the fancy LCD (liquid crystal display) and plasma models. With their impressive wide screens, sharp picture quality and sleek flat-panel display, they certainly look more 21st century than a bulky old CRT (the traditional TV — it stands for cathode ray tube).

Last month, we compared LCDs and plasmas to see if screen type dictates image quality — our test suggested it doesn't. This month we put eleven 66 cm LCD TVs to the test to find out which models are good enough to warrant spending big bucks on. As LCDs are relatively new technology, they're still quite pricy. The ones on test cost between $1300 and $3000 — a big jump from the price tag on your average 51 cm CRT ($300–$550 in our last test in May 2005).

WHY BUY AN LCD?

Compared to CRTs, LCDs are slim, lightweight and some (including all the tested models) can be mounted on a wall, occupying less space and keeping them out of toddler reach. (An LCD isn't quite as immune to being poked by small fingers as a CRT's glass screen.)

LCD TVs come in widescreen (nominally 16:9) format, which is claimed to be more akin to the field of human vision than the box-shaped (4:3) pictures that a standard CRT TV produces. More and more TV programs, such as sporting events, news, major soaps and MTV, are being recorded using widescreen these days, as are most movies. The width-to-height format is referred to as the 'aspect ratio' of the screen.

However, these TVs still have an analogue rather than a digital tuner, and any analogue broadcast in the traditional 4:3 format will be displayed in that format. On the 66 cm TVs tested, the 4:3 format gives you the same-size picture as a 53–57 cm CRT model — which means you get black bands on either side of the image and you've lost all the advantage of the larger screen size. The best (but most expensive) way around this is to buy a set-top box to receive the digital broadcast of the same programs, which is generally in widescreen format. Alternatively you can use the 'stretch' function, which distorts the picture to make it fit across the full screen width, or 'zoom' in and lose some of the top and bottom of the image.

As the resolution is higher than a CRT (meaning an LCD screen can display more detail), the picture quality is generally much sharper. Again, you're likely to appreciate this even more if you buy a set-top box that lets you receive higher-resolution digital broadcasts. Digital television is broadcast in both standard (SD) and high-definition (HD) resolution.

Another advantage is that LCDs don't flicker — a plus for people who find a flickering screen strains their eyes or gives them headaches.

A potential problem with LCDs is faulty pixels. LCD screens are made up of hundreds of thousands of pixels, and they can get stuck in one particular form (say as a particular colour), when they're commonly known as 'dead'. While you won't see one dead pixel from a normal viewing distance, a clump of them in one area would be visible as a spot on your screen. It's worth checking manufacturers' warranty conditions for faulty pixels when you're buying.

And, of course, currently LCDs are expensive.

What to buy

The top four models are profiled in rank order.

SHARP AQUOS LC-26GA5X

Price: $2499

GOOD POINTS

- Very good picture and sound quality.
- Excellent standby energy performance.
- Swivel base.
- Tiltable screen.
- Three-year warranty.
- Child lock.

BAD POINTS

- Harder to use than the others in the *What to buy* list.
- One of the most expensive.
- Can't be used as a computer monitor.

LG 26LX2R-TE

Price: $2299

GOOD POINTS

- Very good picture quality.
- Good sound.
- Second-highest ease of use score.
- The remote has large buttons.
- Excellent standby energy performance.
- Swivel base.
- Child lock.
- The TV remote can also control any DVD player.

BAD POINTS

- Can only be used as a monitor if your PC has a DVI or HDMI socket (see *Connections*, page 17).

JVC LT-Z26SX4B

Price: $2199

GOOD POINTS

- Best picture quality in the test.
- Swivel base.
- Tiltable screen.
- Excellent standby energy performance.
- Child lock.
- The TV remote can also control a DVD player of the same brand.

BAD POINTS

- Comparatively low sound quality scores.

SAMSUNG LA26R51B

Price: $1999 BEST BUY

GOOD POINTS

- Very good picture quality.
- Easy to use.
- Excellent standby energy performance.
- Child lock.

BAD POINTS

- Sound quality is OK but five of the tested models are better.
- Not suitable if you're hearing-impaired: it can't display captions. If you attach a set-top box it will display them.

WHAT ABOUT THE REST?

The **TOSHIBA, AWA, LOEWE** and **PHILIPS** are good-quality models overall and you're likely to be happy with them, particularly if you find them at a good price.

- The **TOSHIBA** has good picture and sound quality but isn't very easy to use.
- The **AWA** is by far the cheapest of the models tested at their recommended retail prices, but has a comparatively low sound score.
- The **LOEWE** has close to hifi-standard sound but rated lowest for ease of use. Its remote control has some programmable buttons that aren't labelled and don't have prompts on the screen, so you'd have to rely on remembering what you'd programmed in.
- The **PHILIPS** produces good pictures but ordinary sound. It's a bit fiddly to set up in that to display pictures from a high-definition (HD) source it uses the PC input connection rather than the component video connection.

The remaining models have definite problems that you wouldn't expect in models costing $2000–$2500:

- The **GRUNDIG Amira 26** scored only 56% for picture quality.
- The **DAEWOO** is the worst for sound quality and the picture has a slightly pink tinge.
- The **GRUNDIG Vision 26** has the worst score of all for picture quality (just 52%), plus has glass protecting the screen — which seems like a good idea, except that it creates reflections, making it difficult to watch if you're sitting in a lit room.

Brand / model (in rank order)	PERFORMANCE 1 Overall score (%)	2 Picture quality score (%)	3 Sound quality score (%)	4 Ease of use score (%)	5 Standby energy score (%)	FEATURES 6 Swivel / tilt	7 Effective connections (rear)	8 Aspect ratio	Can use a monitor
SHARP Aquos LC-26GA5X	82	83	88	63	100	S, T	3	16:9	
JVC LT-Z26SX4B	80	87	67	68	90	S, T	3	16:9	✓
LG 26LX2R-TE	80	82	77	71	90	S	2	16:9	✓ **(B)**
SAMSUNG LA26R51B	80	84	69	70	100		4	16:9	✓
TOSHIBA 27WL55A	76	74	79	65	100	S	2	16:9	✓
AWA TFTD66	74	75	64	73	90		3	15:9	✓
LOEWE Concept L 26 **(A)**	74	74	85	55	90		3	16:9	✓
PHILIPS 26PF9956/79	72	75	68	60	90	S, T	3	15:9	✓
GRUNDIG Amira 26 LXW 68 7515	66	56	80	63	90		4	15:9	✓
DAEWOO DLP-2622	65	67	51	65	80		6	15:9	✓
GRUNDIG Vision 26 LXW 68 8510	61	52	68	63	90		4	15:9	✓

What to look for in an LCD TV

Watch the TV in the shop, looking at a variety of TV programs. Most LCDs give a great picture from a DVD but may not come up to scratch with a weaker TV signal. You may also need to adjust the picture controls (colour, contrast, brightness and sharpness) to get a good image. Ask the salesperson to help if you're unsure. Some TVs have a colour cast — that is, their picture always has, for example, a pinkish or greenish tinge — that can't be completely eliminated even if you adjust the colour.

When you're checking out screens in the shop, try to watch a talking head, such as a news presenter. This will allow you to check if the skin tones are natural, and how well fine details are reproduced, such as the texture of the presenter's hair.

Be wary if you have to set a control to maximum to get the best picture — you mightn't be able to further adjust it as the TV gets older.

When checking the sound, listen for clear, high notes that don't sound tinny or harsh. Mid-tones should be full-bodied and voices should be clear. Bass should be more than just a booming sound, and it shouldn't distort. This isn't easy to judge in a noisy store.

Look for a remote where the most frequently selected buttons (the volume, channel selector, standby and mute) are easy to use and placed prominently. It's best if these buttons are a different shape or size from the rest so you can locate them by touch only — necessary if you're watching TV in dim light, for instance.

Take a look at the onscreen menu instructions and see how easy they are to read and if you can follow them.

Check the instruction manual to ensure you can follow it. Look for one with step-by-step instructions written in plain English, with clearly labelled diagrams.

If you want to have your TV on the wall — a space-saving option that should also keep the delicate LCD screen out of toddlers' reach — you'll need to buy a wall-mounting kit.

In this test we looked at 66 cm LCD TVs made by 10 major brands. At the time of our test **SONY** didn't make an LCD in this size and the **PANASONIC** model wasn't on the market in time to include it, which is why these two brands aren't included in this article.

* *Rounded up to the next half centimetre, including all protruding parts and the stand (but not the cord), screen untilted and unswivelled if applicable.*

** *Prices are recommended retail, as provided by manufacturers in September 2005.*

(A) *Discontinued but may still be available in some shops.*

(B) *If your PC has a DVI or HDMI socket.*

(C) *If you register, otherwise two years.*

1 Overall score
This is a combination of the following:
- Picture quality: 50%
- Sound quality: 20%
- Ease of use: 20%
- Standby energy consumption: 10%

2 Picture quality score
A combination of:
- Visual evaluation of movies: 80%
- Visual and geometric evaluation of picture patterns: 20%

A CAUTIONARY TALE...

PATRICK GEORGHIOU

LCD and plasma TVs haven't been around long enough for us to have information about their reliability. The technologies are so different from traditional TVs that we can't just carry the brand reliability data we have for CRT TVs across to the new models. So we follow with interest any consumer experiences with LCD and plasma TVs.

Janeen O'Connell of Taylors Lakes, Victoria, bought a **SHARP Aquos** LCD TV for $4800 in June 2004 and it broke down in July 2005. As it was still within its three-year warranty, Janeen contacted **SHARP**, which gave her details of an authorised repairer. However, after keeping the television for three weeks, the repairer returned it without fixing the fault.

SHARP recommended another authorised repairer, who contacted the company after a week to get the part needed to fix the TV. Another

CIFICATIONS

ensions (H x D, cm)*	Warranty (years)	Origin	Manufacturer / distributor	Price ($)**
55.5 x 28	3	Japan	Sharp	2499
55 x 30	2	Thailand	Hagemeyer	2199
51.5 x 25.5	1	Korea	LG	2299
x 54 x 20.5	3	Korea	Samsung	1999
x 57.5 x 27.5	5 **(C)**	Indonesia	Castel Electronics	2699
49 x 26	3	Korea	Big W	1298
x 47.5 x 23	3	Germany	International Dynamics	2999
50.5 x 26	3	China	Philips	2999
50.5 x 20.5	2	Europe	Grundig	1999
49 x 21.5	1	Korea	Legend International	1999
54.5 x 24	2	Europe	Grundig	2499

3 Sound quality score
A combination of a:
- General listening assessment: 80%
- Technical sound test, measuring the sound for frequency range, frequency response and smoothness: 20%

4 Ease of use score
This is made up of:
- Remote control: 50%
- Tuning and setting up channels: 20%
- Onscreen display user-friendliness: 20%
- Onboard controls: 10%

5 Standby energy score
This looks at the energy used when the TV is turned off but can be turned on by the remote. The lower the usage, the higher the score. It's based on the TV being on standby for 19 hours a day and turned on for the rest of the time. All these models use very little standby energy.

6 Swivel/tilt
Being able to change the up/down and left/right angles of where the screen faces means you can adjust it to help you get the best viewing position, no matter where the TV is (or you are) in your room.

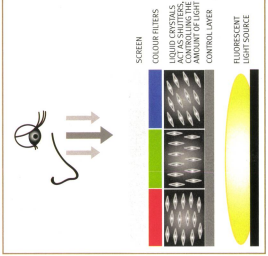
7 Effective connections
The number in the column is the number of appliances (DVD, video recorder, etc) you can connect to the back of the TV at any one time. Some models also have connections accessible from the front, making it easier to temporarily attach a camcorder, for example. On the **LG, LOEWE, PHILIPS** and **TOSHIBA** these are independent of the rear connection; on the others they're not. Also see *Connections*, below.

8 Aspect ratio
See *Why buy an LCD TV?*, page 14. Although widescreen TVs are nominally 16:9 ratio, some of these models are only 15:9, which means you lose a very small amount off the sides of the picture.

What's LCD?

It stands for liquid crystal display. The crystals, sandwiched between two glass plates, twist when an electric charge is applied. This twisting motion lets them act as a shutter, either allowing light through or blocking it, which creates the image you see on the screen.

At the moment, LCDs are harder to make as the screen gets bigger. Anything above 100 cm will probably be plasma.



two weeks passed, and **SHARP** told Janeen the repairer "should" have the part by the following Wednesday, asking her if she would like three months added to her warranty.

Although after 10 weeks the TV was eventually fixed, Janeen was annoyed by what she felt to be tardy service, and that an expensive piece of equipment had broken down in such a short time.

We contacted **SHARP**, which expressed regret for the inconvenience caused. It said it had in the end extended Janeen's warranty by six months, and that she'd told the company she was satisfied with the service outcome.

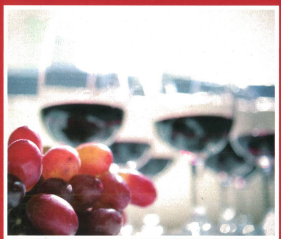
Even if the written warranty has expired for an expensive purchase, you may be protected by statutory warranty if it's reasonable to expect the item would last longer than, say, the 12 months given in most manufacturer warranties. See *Shop till you drop*, page 36, for more on statutory warranties.

Connections

With all the different gadgets you can connect to your TV these days (DVD player/recorder, cable TV, PlayStation, camcorder and so forth) it's worth checking when buying how many devices you can hook up at the same time (see the table for this info for the tested models). Here's a guide to the different kinds of video connection available and what they're used for. Note that, apart from SCART and HDMI, they all require separate audio connections.

- **Composite:** Almost all modern TVs have composite video input — the usual system for connecting VCRs, camcorders, games consoles and so on. The brightness and colour signals are combined into a single video signal.
- **S-video:** Identifiable by a small, round, four-pin plug, S-video offers better picture quality than composite because the brightness and colour signals are kept separate.
- **Component:** Separates the brightness and colour signals even further, providing even better quality. Three video cables are required.
- **SCART** (syndicat français des constucteurs d'appareils radio et télévision) is also known as a Euroconnector. It's a 21-pin connector for analogue video and sound.
- **HDMI** (high-definition multimedia interface) is an all-digital connection for both video and sound in one cable.
- **DVI** (digital video interface) is a connector for video that can carry digital and analogue video signals to a screen that can display them.

STRAIGHT REDS



Four wine experts taste 75 popular single-grape red wines: shiraz, cabernet sauvignon and merlot.

IN A NUTSHELL

The experts were most *impressed with the shiraz wines, though there were some worthwhile cabernet sauvignons and merlots — check out the CHOICE Mixed Dozen, far right.*

It's not so long ago that white wine clearly dominated the Australian market, with over 80% of bottled table wine sales in the mid eighties. Whether due to changing tastes or increasing eagerness to reap red wine's widely reported health benefits, red and white wines are now neck and neck, with white only a nose in front.

Whether white or red, consumers' buying habits show they prefer straight varietals to blends. They allow you to fully appreciate the characteristics and complexities of each grape, and to differentiate between them — you can be more confident about what the wine will taste like.

This doesn't mean blends are second-rate. An advantage of blends is that grapes that wouldn't make a really good single-variety wine can improve other grapes. At the generic level, merlot or shiraz can provide a 'middle palate' for cabernet sauvignon — sometimes known as 'doughnut' wine because it tends to have a flavour 'hole' in the centre of your tongue. A good winemaker can thus enhance the properties of a wine with careful blending: even the famous Penfolds Grange, while mostly shiraz, sometimes has a little cabernet sauvignon added.

In terms of sales, straight shiraz and cabernet sauvignon wines are the biggest sellers among reds, followed by blends of these and other grapes. Merlot is the most popular of the other single-grape wines, and is growing in popularity as people come to appreciate lighter reds.

In all, 75 Australian wines were tested: 23 merlot, 27 shiraz and 25 cabernet sauvignon. The wines were mostly selected from lists of the top-selling single-variety wines provided by three major national retailers.

Because almost all the top-selling wines were under $20, we also picked some more expensive wines that, while still popular, didn't make the top-seller list, in order to see if spending a little extra gets you a better wine. With the exception of the **WYNDHAM ESTATE Show Reserve 2003** ($31.60), which topped the shiraz ratings, generally speaking in this test it didn't.

THE VERDICT

In general the expert tasters were most impressed with the shiraz group, awarding a bronze-medal score of 15.5 (out of 20) or higher to two-thirds of the wines. The cabernet sauvignon group was more disappointing, with just under half earning a medal-winning score. The merlots were also a little disappointing — while many scored 15.5 or more, none was considered worthy of a medal higher than a bronze. For more about the scoring, see note 1, page 23.

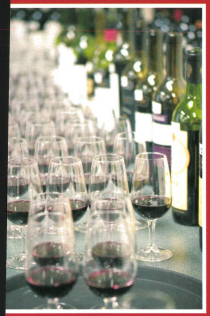
To see if the average punter agreed with the experts, we asked 11 people who like red wine to taste some of the wines from the top and bottom of the lists as scored by the experts, as well as those rated 'mixed emotions' (where the experts couldn't agree on a consensus score).

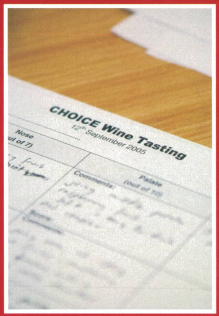
Overall our lay panel wasn't very impressed with the 'mixed emotion' wines, the exception being the **YELLOW TAIL** merlot (which we've included in the CHOICE Mixed Dozen). This wine, characterised by its easy-drinking qualities and good price, earned kudos as the most popular merlot on sale in the US in 2004, and second-most popular red overall.

ADDITIVES AND ALLERGENS

Most wines have one or more preservatives added, mainly sulphur dioxide (220). Many people with asthma are sensitive to sulphur dioxide and it could cause an attack.

Many of the wines in our test also list egg, milk and/or fish products, which are used as fining agents to help clarify the wine. Nuts are sometimes used to provide tannin. If traces of these products remain in the end product, they have to be listed on the label to warn people sensitive to them.





CHOICE MIXED (BAKER'S) DOZEN

Our traditional Mixed Dozen (it's a Baker's Dozen this year) of recommended wines includes the 12 wines that scored 16.5 or higher. We also included the **YELLOW TAIL** merlot, which was a 'mixed emotion' wine, with the experts' scores ranging from 14.5 to 18.5. Our lay panel scored it highly, rating it their favourite merlot.

The prevalence of shiraz in the dozen reflects its better overall performance in our expert taste test as a single-grape red in a price range popular with consumers.

CABERNET SAUVIGNON

	JACOB'S CREEK Reserve 2002	$12.30
$$	PENFOLDS Rawson's Retreat 2004	$7.50
	JAMES BUSBY Barossa 2002	$15.00
$$	LINDEMANS Bin 45 2004	$7.45

MERLOT

$$	LINDEMANS Bin 40 2004	$7.45
$$	YELLOW TAIL 2004	$8.55

SHIRAZ

	WYNDHAM ESTATE Show Reserve 2003	$31.60
	INGOLDBY McLaren Vale 2003	$11.95
	JACOB'S CREEK Reserve 2002	$11.95
	PENFOLDS Thomas Hyland 2003	$13.90
	TAYLORS Jaraman 2002	$27.00
$$	LINDEMANS Bin 50 2004	$7.45
	SALTRAM Next Chapter 2003	$17.00

$$ indicates good value in this price range.

Drinking reds

Australians often drink reds too warm (and whites too cold). The best temperature for reds is 15–18°C, slightly below room temperature. If it hasn't come straight from a cellar you may need to put it briefly in the fridge in hot weather before you drink it.

It can be a good idea to let a red 'breathe' before you drink it — it helps 'open it up' to release the flavours. Wine in contact with air starts to oxidise, and mild oxidisation is a good thing. Over-oxidised wines develop taste faults, so too much breathing can be as bad as too little (think of a bottle that's been open for a few days). Older wines in particular are susceptible to over-breathing. There are no set rules for how long a wine should breathe — the amount varies with different wines, but even as little as an hour or so should help younger wines.

For proper breathing you need to do more than remove the cork — that's more like a gasp than a breath, as air only contacts the very small surface area of wine that's in the bottle neck.

Better options include:

- Pouring wine into glasses well before you plan to drink it (if you're having red with your main course at a restaurant, have it poured when your aperitif or entrée drinks are served). The wine remaining in the bottle will also benefit.
- Pouring wine into a decanter.
- If you're in a hurry, pouring wine into a decanter from a height and with lots of splashing (and hopefully not too much spillage!), to get the air quickly to as much of the wine as possible.

With older wines, take care when decanting to leave the sediment in the bottle.

Use a big glass with a rim narrower than the bowl, and pour so it's only partially filled. This allows you to swirl the wine in the glass to release aromas, and then concentrate the aromas near your nose when you sip the wine.

REMEMBER THIS

If your memory's not up to recalling what's good and what's not when confronted with the huge array of brands and varieties in a bottle shop, you could just remember **LINDEMANS Bin Series** *(2004) and* **JACOB'S CREEK Reserve** *(2002) and choose your shiraz, cab sav or merlot from among them — those in this test all scored high enough to make it into our Mixed Dozen. At under $10 a pop, the* **LINDEMANS Bin Series** *are also good value.*

Corked

If your wine has a mouldy, musty, hessian bag or wet cardboard smell or dull, even sour, taste, it may well be 'corked'. Cork taint is caused by a microbiological contamination of the cork.

Only two of the 75 bottles we tested were considered corked. We opened a second bottle of each, and these were OK.

If you're unlucky enough to get a corked wine in a restaurant, send it back and ask for a new one. Likewise if you buy one from a bottle shop, return it for replacement. Winemakers and retailers prefer you do this than have you think that the particular wine itself was bad.

In an effort to overcome cork-related spoilage, winemakers have increasingly taken up alternatives to natural corks, including screwcaps (eight in our test had them) and synthetic (plastic) corks (21 had them).

Know your reds

SHIRAZ

- **Also known as:** *Syrah* (especially in France and the US) and *Hermitage* (which was dropped from the label of the famous Penfolds Grange from the 1990 vintage to satisfy EU-mandated naming restrictions — it's allowed only on wines from that appellation in France, or wines not exported to the EU).
- **Market popularity:** With almost 25% of the red wine market, straight shiraz is the most popular red. It's also the most prevalent grape type grown in Australia.
- **Characteristics:** Dry, moderate acid and tannin; big, rich, balanced palate; peppery, spicy, earthy, leathery, berry flavours with distinctive regional variations.
- **Noteworthy regions in Australia:** Yarra Valley, McLaren Vale and Hunter Valley.
- **Popular misconception:** It would be ironic if the shiraz grape had originated from the town of Shiraz in the now strictly teetotal Iran, as is often recounted. However, recent DNA tests concluded it's a naturally occurring hybrid that originated in France's Rhône Valley.
- **What the tasters said:** The best varietal in this price bracket — you almost can't go wrong. Generally the wines were rich and full-bodied, well-balanced with good length and complexity.

CABERNET SAUVIGNON

- **Also known as:** *Petit cabernet*, *vidure* or *petit bouchet* (in France), and *cab sav* (in superior wine appreciation circles).
- **Market popularity:** The second-most popular red wine varietal, although suffering a small drop in market share in recent years.
- **Characteristics:** Great flavour, complex bouquet, deep purple, high levels of acid and tannin, but tends to lack flavour in the middle of the tongue; many flavours including berries, capsicum, cedar and vanillin.
- **Noteworthy regions in Australia:** Coonawarra and Margaret River.
- **Popular misconception:** Cabernet sauvignon is not a wine blend. The cabernet sauvignon grape is a grape in its own right, a natural hybridisation of sauvignon blanc and cabernet franc grapes, dating back several centuries.
- **What the tasters said:** You probably need to spend more than $20 for a really good cab sav, although there are some good blends in the under-$20 range. In the group of cab savs tasted, generally speaking there was too much tannin and acid for the level of fruit — though there were some exceptions.

MERLOT

- **Also known as:** *Vitraille* (in France).
- **Market popularity:** Rapidly growing in production and market popularity, straight merlot makes up around 10% of all bottled red sales.
- **Characteristics:** Dry, medium colour, medium body; simple, soft, round palate; berry and plum flavours, can taste oaky.
- **Noteworthy regions in Australia:** Barossa Valley, Riverland and McLaren Vale.
- **Popular misconception:** It's often thought of as a red for white wine drinkers. While it's lighter than many other reds, it's not necessarily an ideal compromise: white drinkers who love the zesty, herbaceous freshness of a sauvignon blanc, the richness and length of a good chardonnay, the crisp, citrus flavours of a semillon or the fruity sweetness of a traminer riesling probably won't find such characteristics in a merlot.
- **What the tasters said:** They're the lightest of the reds tasted, and offer a softer option for those who prefer a lighter-style red. However, you rarely see a really good straight merlot in Australia and they're generally best suited to blends, giving softness to other grapes.

Wine (in rank order within varieties)	1 Score out of 20	Price ($)*	Alcohol content (%)	Closure	2 Tasting notes
CABERNET SAUVIGNON					
JACOB'S CREEK Reserve 2002	17	12.30	14.5	Cork	Great depth of colour; very complex nose with eucalypt, olives and cedar; ripe tannin palate with blackcurrent fruit flavours — a nicely balanced wine that's long, intense and complex.
PENFOLDS Rawson's Retreat 2004	17	7.50	14.0	Plastic	Deep red-purple hues; dark berry-driven nose with rose and freesia; softly textured palate with complexity, a nice balance and a good generosity of flavour — a big, soft, rich wine.
JAMES BUSBY Barossa 2002	16.5	15.00	13.3	Cork	Deep plum colour; toasty oak nose with nice fruit character; attractive fruit and oak, but lacks some length — typical of a cool-climate cabernet.
LINDEMANS Bin 45 2004	16.5	7.45	13.5	Plastic	Dark, rich red; rich, dark fruit and savoury nose; full-bodied with licorice, plum fruits and fine tannins — a good commercial style.
BRAND'S OF COONAWARRA 2002	16	17.00	14.0	Cork	Mid-crimson colour; ripe fruit character with some tomato leaf; palate has a good balance of oak with supporting fruit — a strong wine with tight acid.
McWILLIAM'S Hanwood Estate 2003	16	7.95	13.0	Cork	Mid-crimson colour; sweet vanilla and oak with very ripe fruit aromas; sweet coffee palate with firm, mouth-filling tannin — a nice structure with ripe fruit flavours, fullness and length.
PENFOLDS Thomas Hyland 2003	16	13.90	14.0	Screwcap	Dark chocolate red; good sweet berry nose with ripe aromas and oak showing; full, round palate but lacks complexity — a wine with rich sweet fruits, but looks out of balance at this stage.
ROSEMOUNT ESTATE Diamond Label 2003	16	9.50	13.5	Plastic	Deep red colour; integrated oak nose with ripe dark berry and mint; ripe tannins and a dry finish — lacks some mid-palate fruit intensity.
McGUIGAN Genus 4 2003	15.5	24.95	13.5	Cork	Mid crimson colour; dark berry and oak; sweet plum fruit palate with nice length and balance — a soft and approachable wine.
TAYLORS Jaraman 2002	15.5	32.00	14.5	Screwcap	Tawny brick red; dusty oak nose with berry fruit; rich fruit on the palate and dominant oak — a medium-bodied wine with a soft finish.
WYNDHAM ESTATE Bin 444 2002	15.5	10.40	14.5	Cork	Mid-ruby colour; minty, redcurrant nose with dark chocolate; warm palate with good oak and a fairly short, firm finish — ripe fruit flavour.
BROWN BROTHERS 2002	15	14.30	14.5	Cork	Deep crimson; oak-driven nose with coffee bean, coconut and dark fruit; oak-dominated palate with a resiny finish — oak detracts from the wine, lacks freshness.
HALF MILE CREEK 2004	15	5.95	13.5	Cork	Bright brick-red colour; fish-food nose with red fruits and citronella; simple, lolly palate with soft tannins — a light bodied wine that lacks complexity.
HARDYS Regional Reserve 2004	15	5.50	13.5	Plastic	Mid crimson; simple tutti-frutti nose; simple but subtle palate — a softer, easy-drinking style of wine but lacks intensity of flavour.
LINDEMANS Reserve 2003	15	8.90	13.5	Plastic	Deep crimson colour; dull nose dominated by fine dusty oak; ripe tannin palate with acid balance — a wine that lacks fruit flavour and length.
MATTHEW LANG nv	15	5.90	13.0	Plastic	Medium-bodied red colour; dull nose with red fruits, licorice and porty aromas; lacks intensity but a soft balanced finish — a wine showing some development.
PENOLA ESTATE Coonawarra 2002	15	11.00	13.5	Cork	Brown hues; earthy developed nose with green fruit and vegetable; palate flat and drying out, with some oak and residual sugar — past its best, lacks freshness and vibrance.
QUEEN ADELAIDE 2004	15	4.70	13.0	Plastic	Mid-crimson colour; resinous, cedary oak nose with a ripe medicinal aroma; sweet oak on palate with a dry finish — oak detracts from the wine.
STONEHAVEN Stepping Stone Coonawarra 2002	15	10.40	13.0	Cork	Mid-garnet colour; green herbal nose with a hint of minty/leafy character; sweet fruit on front palate — nice acid but showing some development.
TAHBILK 2001	15	16.00	13.5	Cork	Deep garnet colour; savoury nose with chocolate, vanilla and ripe fruit; weak palate lacking length — a wine showing some development.
TAYLORS Clare Valley 2003	15	11.95	14.5	Screwcap	Bright brick-red colour; oak-driven style with lifted plum and tomato leaf; simple fruits and oak with obvious tannins — a tighter style of wine.
WOLF BLASS Eaglehawk 2004	15	7.50	13.0	Cork	Deep red colour; bilgy/earthy nose; palate lacks intensity — a simple, lolly wine.
WOLF BLASS Yellow Label 2003	15	10.75	13.5	Cork	Deep red; simple, savoury, nutty subdued nose; ripe fruit palate but acid too high — a clean wine, good drinking but boring.
JAMIESONS RUN Coonawarra 2002	14.5	12.00	14.0	Cork	Dull tawny colour; green capsicum and herbal nose with tomato bush; green fruit palate with aggressive tannin — a wine that has a dry, hard palate and finish.
SALTRAM Maker's Table 2003	13.5	6.65	13.5	Cork	Deep red colour; old and stale nose dominated by aldehydes; broad, flat and sweet palate — a wine that lacks fruit and freshness.
MERLOT					
LINDEMANS Bin 40 2004	16.5	7.45	13.5	Plastic	A good deep red; fruity nose with clean, sweet oak back-up; rich plummy fruit palate showing ripeness, fuller-bodied with a dry finish — a crowd-pleasing commercial style.
McWILLIAM'S Hanwood Estate 2004	16	7.95	13.5	Cork	Bright crimson colour; blackberry nose with vanilla and oak; attractive plummy fruit palate with nice fullness and length — a consumer-friendly wine, soft and approachable.
WYNDHAM ESTATE Bin 999 2004	16	10.40	14.5	Cork	Deep red with purple hues; charry oak with some ripe fruit; juicy core of spicy red fruits but finishes with a slightly salty character — good strong fruit, but a bit hard.
BRAND'S OF COONAWARRA 2002	15.5	25.00	14.0	Cork	Dark and glossy with mature brick-reds; very oak-dominant, vanilla and spice with some red berry fruits underneath; rich oak-driven style, fruit on the cooler end of the spectrum — attractive oak but doesn't have the fruit to support it.
HARDYS Nottage Hill 2003	15.5	6.60	13.5	Cork	Ruby red; attractive, sweet vanilla oak nose with riper berry fruits; plummy, spicy fruit with good length — a sound wine with good balance.

Continued overleaf

Wine (in rank order within varieties), continued	1 Score out of 20	Price ($)*	Alcohol content (%)	Closure	2 Tasting notes
JACOB'S CREEK 2004	15.5	6.65	13.5	Cork	Soft crimson; some varietal lifted perfumes with sweet berry notes; plum fruit on palate and soft-grained tannins — an attractive, light wine.
LINDEMANS Cawarra 2005	15.5	8.00	13.5	Plastic	Medium-intensity red; dull nose lacking lift and a bit lolly-like; oak-dominant palate with simple jelly/confectionery flavours — lacking flavour but approachable.
LINDEMANS Reserve 2003	15.5	10.00	13.5	Plastic	Dull colour with brown hues; soft fruity nose with cedary oak; softly textured palate with some grippy tannins and sweet oak — lacks freshness.
McGUIGAN Black Label 2004	15.5	6.95	13.0	Cork	Ruby red; red berry fruits and spice with a hint of toast; medium palate showing plum fruits, tight acid and fine-grained tannins — a soft easy-drinking wine showing tighter acids than other merlots.
PENFOLDS Rawson's Retreat 2004	15.5	7.50	14.0	Plastic	Mid garnet colour with brown hues; stewed-fruit aroma with earthy, herbal notes; sweet softness and cooked-fruit characters — soft, easy-drinking but lacks some freshness.
QUEEN ADELAIDE 2005	15.5	6.65	13.5	Plastic	Medium crimson colour; youthful bubblegum palate with lifted fruit aromas; ripe, clean oak flavours but a touch simple and short — a very consumer-friendly wine.
ROSEMOUNT ESTATE Diamond Label 2003	15.5	9.95	14.0	Plastic	Dull brick-red; savoury, slightly meaty nose with red fruit and vanilla; tannin and acid not excessive, nice length — a savoury, well balanced wine.
WOLF BLASS Yellow Label 2004	15.5	10.75	13.5	Cork	Vibrant, youthful crimson colour; toasty oak nose with nice fresh fruit and some herbals; palate lacks flesh and length — an approachable wine, easy drinking.
YALUMBA Y Series 2004	15.5	9.70	13.5	Cork	Good reds; ripe fruit character; simple, slightly confected raspberry fruit palate, quite short — a full-bodied merlot showing rich plum fruit and chunky tannins.
JAMES BUSBY Barossa 2002	15	15.00	13.8	Cork	Soft crimson, heading to brick; aged stewed-fruit aromas; developed, tired fruit on palate and tannins dry — lacking freshness, probably past its best.
WOLF BLASS Eaglehawk 2004	15	6.50	13.0	Cork	Deep red colour; flat, simple nose; medium-bodied palate showing some savoury plum fruit with a dry finish — nothing to it, lacks intensity.
HARDYS Regional Reserve 2004	14.5	4.70	13.0	Plastic	Mid-garnet; appley, greenish dull nose with a hint of herbal character; sweet and sour characters, lacks balance — poor fruit flavours.
RIVER RUN (1.5 L) 2004	14.5	10.85	13.0	Plastic	Light, tawny colour; dirty, hydrogen sulphide nose with light confectionery tutti-frutti notes; light, thin palate — poor fruit flavours.
GOSSIPS Wine Makers Choice nv	14	7.00	13.5	Cork	Deep red, no browns; vegetative, volatile nose dominated by the spoilage character of Brett [antiseptic, metallic, Bandaid] palate with plum fruit, developed — lacks freshness.
MIXED EMOTIONS (in alphabetical order)					
BROWN BROTHERS 2003	13–18.5	16.85	14.5	Cork	Deep red with some brown hues; meaty, savoury nose with dark berry fruits and plenty of new oak; sweet palate with good length / tannin with little fruit / good core of juicy, plummy fruit; complex wine with nice balance / oak-driven, lacking fruit.
McGUIGAN Bin 3000 2003	14.5–18	8.50	13.5	Cork	Mid-crimson colour; sweet butterscotch nose with nice fruit character / dusty dirty oak; some sugar, tannins dry and out of balance — soft and juicy / tastes too sweet.
TAYLORS Clare Valley 2004	14–18	13.40	14.5	Screwcap	Dark, brooding red-purple; complex nose of black fruits, cedary oak, mixed herb and violet; big, grippy tannin with good acid balance and loads of fruit, bigness with little else — has interest and complexity / not truly varietal.
YELLOW TAIL 2004	14.5–18.5	8.55	13.5	Plastic	Deep crimson colour with a purple edge; lifted berry fruit nose with mocca and vanilla; youthful, simple cranberry flavour palate dominated by grainy oak — very well made merlot / easy drinker, lacking complexity.
SHIRAZ					
WYNDHAM ESTATE Show Reserve 2003	17.5	31.60	14.5	Cork	Dark brooding chocolates; big concentrated nose with toasty oak, coffee bean, coconut, spice and black fruit; rich, intense palate, warm interesting fruit, huge tannins, huge oak — a rich, full-bodied wine offering loads of flavour.
INGOLDBY McLaren Vale 2003	17	11.95	14.5	Cork	Dark, bright reds; full fruity nose, peppery with some oak; full, viscous palate with excellent weight, intensity and powdered tannins — an elegent wine with nicely integrated flavours.
JACOB'S CREEK Reserve 2002	17	11.95	15.0	Cork	Deep crimson colour; slabs of coconut and oak characters dominate; rich intense fruits on the palate with lovely integrated tannins — a very drinkable wine.
PENFOLDS Thomas Hyland 2003	17	13.90	14.0	Cork	Dark, chocolate reds; ripe, developed nose with toast, blackberries and creamy oak; round, full palate with soft texture and good length — a sound wine with a big, soft, typical style.
TAYLORS Jaraman 2002	17	27.00	15.0	Screwcap	Soft crimson; savoury oak nose with chocolate then dried fruit aromas; medium-grip tannin with nice length and fuller body — an attractive wine.
LINDEMANS Bin 50 2004	16.5	7.45	13.5	Plastic	Deep vibrant red-purple colour; fresh, with aniseed, licorice and blackberry notes; sweet with generous fruit on the palate and attractive oak — a generous wine showing lovely intense plum fruit with a soft finish.
SALTRAM Next Chapter 2003	16.5	17.00	14.5	Cork	Deep red-purple hues; complex and intense nose with spicy fruit and oak; rich plummy palate, firm chunky tannin finish — an elegent, full-bodied wine.
ROSEMOUNT ESTATE Diamond Label 2003	16	9.95	14.0	Plastic	Good dark brooding colour; soft savoury nose with lifted dark berry fruits and attractive vanilla oak; medium intensity, well balanced palate with strong structure — a well-balanced, attractive wine.
WOLF BLASS Yellow Label 2003	16	10.75	14.5	Cork	Deep red colour; spicy, peppery nose with dark fruits and charry oak; spicy fruit on palate with nice length, medium body and soft integrated tannins — lacks some intensity.
WYNDHAM ESTATE Bin 555 2002	16	10.40	14.5	Cork	Dull colour with a touch of tawny; spicy oak nose, slightly green and resinous; sweet fruit, juicy mid palate with spicy notes and soft tannins — a very balanced wine showing freshness and intensity.
WYNNS Coonawarra Estate 2004	16	27.90	13.5	Cork	Deep crimson colour; fruity oak nose, clean, fresh dark berry; full palate, grippy tannin, nice length — a full-bodied wine, a good commercial style.
YELLOW TAIL 2004	16	8.55	13.5	Plastic	Deep red-purple hues; sweet fruity nose with chocolate, vanilla and Black Forest cake notes; softly textured, sweet but luscious — a crowd-pleasing and easy-drinking style of wine.

Wine (in rank order within varieties)	1 Score out of 20	Price ($)*	Alcohol content (%)	Closure	2 Tasting notes
BRAND'S OF COONAWARRA 2002	15.5	14.90	14.0	Cork	Good dark reds; brown spices, dark fruit and toasty oak; rich, full palate — an attractive wine with sweet fruit notes.
BROWN BROTHERS 2002	15.5	14.30	14.0	Cork	Ruby red; porty nose with dark, savoury aromas, a bit closed; plump and juicy mid palate with a good core of fruit and soft tannins — overripe fruit, slightly developed and dry.
McWILLIAM'S Hanwood Estate 2003	15.5	7.95	13.5	Screwcap	Good dark reds; a slightly dull subdued nose with blackberry fruits and toasty, charry oak; rich full palate with firm tannins; a tangy core of red fruits — a rich, firm wine.
MONTROSE Black Shiraz 2002	15.5	19.00	14.5	Cork	Dark brick red; very oak-driven nose; rich sweet palate but with excessive oak — an oak-dominated wine.
PENFOLDS Bin 28 Kalimna 2002	15.5	19.00	14.5	Cork	Dark crimson; dull savoury nose, spicy fruit, some oak; palate lacks vibrance — a medium-bodied wine; a bit flat.
QUEEN ADELAIDE 2004	15.5	5.80	13.0	Plastic	Lighter, vibrant red-purples; lifted, perfumed nose with redcurrants; soft, balanced palate, a bit simple but easy-drinking — a sound commercial wine.
HARDYS Regional Reserve 2004	15	5.50	13.5	Plastic	Deep red with purple hues; ripe plum and vanilla oak nose with a touch of green pepper and confectionery hints; palate slightly green, unripe, sweet and sour — a round, smooth wine, easy-drinking.
YALUMBA Galway Vintage 2003	15	9.70	14.0	Cork	Deep crimson; blackberry and spicy nose with a hint of pepper and soft oak; creamy oak palate and dry finish — a medium-bodied wine; slightly unripe character.
ANNIE'S LANE Clare Valley 2002	14.5	16.65	14.0	Screwcap	Deep red colour; dank stewed-fruit nose; medium-bodied palate but lacking fruit intensity — a wine that lacks freshness of fruit.
McGUIGAN Genus 4 2002	14.5	17.55	13.0	Cork	Soft ruby colour, but getting on in age; porty, slightly unclean nose with savoury, olive, dusty notes; medium tannin, medium body, not much life — shows some development but lacks fruit.
SALTRAM Maker's Table 2003	14.5	6.65	13.5	Cork	Brick-red colour; dull, earthy nose with developed fruit; medium to light-bodied palate, loads of sugar — a simple and soft wine lacking intensity and length of flavour.
TAHBILK 2001	14.5	15.95	14.0	Cork	Deep red colour with some browns; savoury nose, dried-out fruit aromas; developed palate with firm tannins but lacking fruit sweetness — a balanced wine but lacks some intensity of fruit flavours.
JACOB'S CREEK 2003	14	6.65	14.0	Cork	Brick reds; dull nose, green fruit and a bit baggy; dull palate with hard green tannin and lacking fruit — an unbalanced wine that lacks freshness.
MIXED EMOTIONS (in alphabetical order)					
PENFOLDS Bin 128 Coonawarra 2002	15–18.5	19.00	14.0	Cork	Deep crimson; complex nose with lifted dark berries and earthy, porty notes; ripe fruits on palate, grippy tannin — balanced older-world style / good fruit but slightly extracted, hard at this stage.
TAYLORS Clare Valley 2004	15–18.5	12.30	14.5	Screwcap	Youthful reds and purples; blackberry and pepper nose, very fresh and vibrant; full-bodied and rich palate, grippy but should soften with more time in the bottle — a very intense, full-bodied wine / needs time.

* *The price is what we paid in August 2005, rounded to the nearest five cents. Shop around — prices vary and there are often specials.*

nv *No vintage year specified.*

1 Tasting score

The experts didn't know the wines' prices or which wines they were tasting, other than the grape variety — which is known as a blind tasting. They could award up to 20 points to each, according to the international scoring system: 3 for appearance, 7 for 'nose' and 10 for palate. At wine shows, a wine that scores 18.5 points or more is awarded a gold medal, 17–18.4 points a silver and 15.5–16.9 points a bronze medal.

The score printed in the table is the experts' consensus score reached after the tasting, when they discussed the wines and their individual scores, still without knowing what the wines were. It's usually the average of the four experts' scores. In some cases a wine received too wide a range of scores and no consensus could be reached. We called these *Mixed emotions*, and included the range of scores and comments (good and bad) in the table. They're listed at the end of each section.

2 Tasting notes

These are selected from the experts' notes on the wine's colour, nose, palate and overall impressions. Together with the scores they should give you a good indication of the wine's style, aroma and flavour.

MORE INFO

For an explanation of wine jargon, including some terms used when tasting, go to www.choiceextra.com.au and click on Dec 05 under 'Wine' in the index. And if you're unsure about how to pronounce some of the wine names, you'll also find a handy guide there.

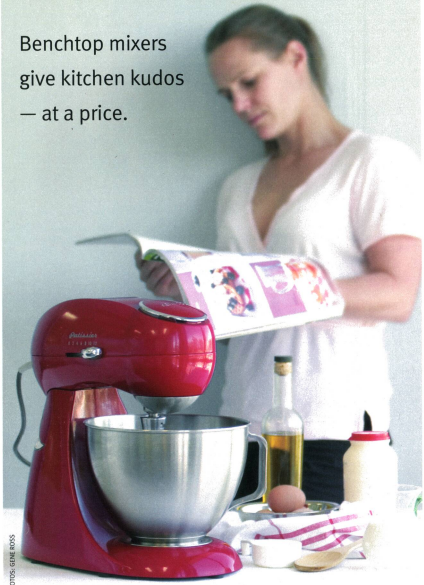
THE EXPERTS

Many thanks go to the members of our expert wine-tasting panel, pictured from left to right:

- Angus Sutherland, winemaker, Drayton's Wines (now with St Vincent Estate).
- Michael Davey, wine marketing, Cellarmasters.
- Marie Clay, winemaker, Lindemans.
- Mark Richardson, winemaker, Tyrrell's Wines.

Get in the mix

Benchtop mixers give kitchen kudos — at a price.



PHOTOS: GENE ROOS

IN A NUTSHELL

- **On test: Seven benchtop** *mixers, ranging from $170 to $800 and representing a large chunk of the whole market.*
- **The top-scoring models** *all cost $350 or more (see* What to buy, *below, for details), but if you make lots of cake and bread you'll find them a valuable asset in your kitchen.*

A benchtop mixer is the latest must-have for the kitchen. Available in retro designs and colours to match all decors, it's tempting to buy on looks alone. But cost is an important consideration — while the cheapest mixers are good, spending $350 or more for one that's even better could be worthwhile, particularly if you make a lot of cakes and bread.

Various attachments are available for the two most expensive models ($659 and $799), giving you the ultimate kitchen appliance if you're prepared to spend the extra money (see *Getting attached*, far right, for details).

But they're called benchtop mixers for a reason. They're heavy and bulky, so you'll get much more use out of one if it has a permanent spot on the bench. Getting it out of a cupboard and putting it away after each use would quickly wear a bit thin.

GOOD WORK

All the models on test work well overall, but a few differences showed up within tasks.

- **Whipping egg whites**. The only mixer to run into difficulties producing perfectly whipped egg whites was the **SUNBEAM MX7700**. It wasn't able to aerate the whites as much as the other models because it doesn't have a wire whisk beater and only accommodates a large bowl (meaning the egg whites are spread over the wide base, not directly under the beaters). The **BREVILLE EM15** also doesn't have a wire whisk beater, but because it has the option of using a small bowl it performed excellently.

None of the mixers can whip just one egg white satisfactorily — they all need at least two (the **KENWOOD KM270** needed three in our test).

- **Mixing cake mixture.** Both the **SUNBEAM**s did this to perfection, but all the other models left a small amount of unmixed mixture around the centre area of the bowl — even after scraping down the sides of the bowl during the mixing process.
- **Kneading dough.** A dough hook takes the hard work out of making bread by combining the ingredients, then kneading the dough and even punching it down.

The models with a single dough hook all produced perfect results, making light work of what

WHAT TO BUY

BREVILLE Wizz Mix Professional BEM400	$350
KENWOOD Patissier Kitchen Machine KM270	$399
SUNBEAM Mixmaster Professional MX8800	$400

If you want a mixer you can get a lot of extra attachments (eg pasta maker, mincer) for:

KENWOOD Chef Classic Kitchen Machine KM002	$799
KITCHEN AID Artisan KSM90	$659

The **KENWOOD** is slightly easier to use and has more optional attachments (see their profiles, page 26) but the **KITCHEN AID** is $140 cheaper.

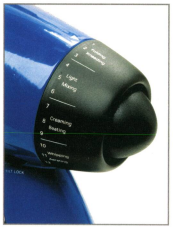
can be a time-consuming task when done manually. They combined all ingredients within the first minute (with no need to scrape down the sides of the bowl) and kneading was completed in four minutes.

The **SUNBEAM MX8800**, **SUNBEAM MX7700** and **BREVILLE EM15** have twin dough hooks that don't completely combine the ingredients, so you have to complete the process manually. This isn't very satisfactory and we penalised all three machines significantly for it in their performance score.

THE VERDICT

You need to be a pretty serious baker of cakes and bread to bother with any of these machines, and to have plenty of space on your kitchen bench to leave them out ready to use. But if that sounds like you, our recommendation is for the mixers in the middle of the price range — $350–$400 (see *What to buy*, far left).

While the two cheapest models are still good, we don't think you'll find them quite such a pleasure to work with or that you'll get such good results in some cases. And we'd only recommend the two most expensive models if you're a passionate all-round cook who's prepared to pay even more for extra attachments and know you'll use them all regularly.



The speed controls on the Sunbeam MX8800 (left) and Breville BEM400 give helpful indication of what functions the different speeds are suitable for.

The single dough hook (above right) mixes and kneads perfect dough, all in less than four minutes. The twin dough hooks on three models (see above for details) don't work as well.

What to look for

Easy-release button for the beater(s) prevents your hands from getting covered in cake mix or other messy ingredients when removing it (the **KENWOOD KM270**, **BREVILLE EM15** and **KITCHEN AID** don't have this).

Spring-loaded tilt-head lock makes it easier and smoother to lift the mixer head (the **KITCHEN AID**'s isn't spring loaded).

FEATURES IN THE TABLE

(See page 26.)

Bowl lock. This keeps the bowl stable during mixing.

A **whisk** attachment is perfect for creating foamy whipped mixtures. The **SUNBEAM MX8800** has twin whisk attachments.

Single dough hook, particularly if you make a lot of bread (see above left and the photo below left for details).

Splash guard to prevent ingredients from splashing out of the bowl. In particular this helps contain flour, which tends to produce a cloud of dust when added to the bowl while mixing. The guard's chute makes it easy to add ingredients directly to the bowl without having to stop the machine and lift the motor head.

Range of speed settings. A range of speeds is essential — slow speed for kneading and folding; light mixing speed for puddings and muffins; creaming/beating speed for butter and sugar, and heavy batters; whipping/aerating speed for cream, egg white and meringues — although six speeds are probably enough.

OTHER USEFUL FEATURES

Heavy-duty beater. This is likely to be the most frequently used tool for cakes and savoury dishes. The **SUNBEAM MX8800**, **SUNBEAM MX7700** and the **BREVILLE EM15** have twin heavy-duty beaters. All the other models have a single heavy-duty flat beater.

Stainless steel bowls. These are extremely durable and should last the life of the mixer. The **BREVILLE EM15** is the only mixer to come with glass bowls (both small and large), which you'd have to replace if you broke them.

Getting attached

They may be pricy, but the beauty of the **KENWOOD KM002** and the **KITCHEN AID** is that you can buy all sorts of attachments for them, meaning you can consolidate many other kitchen appliances into the one machine. We gave their pasta and mincing attachments a trial run and were impressed with the results.

PASTA MAKER

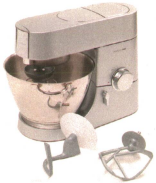
The **KENWOOD** pasta maker is very easy to assemble and attach, and its pasta feeder roller makes feeding the dough easy and frees up your hands. Attaching the **KITCHEN AID**'s pasta maker is a little more fiddly, and it doesn't have a pasta feeder roller. But they both produce very good pasta dough, and are easy to clean.

MINCER

The **KENWOOD**'s mincer is very easy to assemble, while the **KITCHEN AID**'s is a little more fiddly to attach. The results for both attachments are very good, with only a very small amount of meat unminced. They're also fairly easy to clean using a bottle brush.

Profiles

Profiles of all the tested mixers are in rank order. As anyone shelling out for one of the more expensive mixers in particular is likely to be a keen cook wi although some models have a few more cracks and crevices where food residue can accumulate. This is reflected in their ease of use score in the table



KENWOOD CHEF CLASSIC KITCHEN MACHINE KM002

Price: $799

GOOD POINTS

- Pushing a lever ejects the beater, so you don't get your hands messy trying to remove it. The lever also makes it easy to attach the beater.
- Large control knob is easy to use.
- Pouring shield is easy to fit and doesn't get in the way during mixing. Its chute makes it easy to add ingredients while mixer is running.
- Over 30 optional accessories available.
- Has pulse control.

BAD POINTS

- The head lift lever is a little stiff and slightly uncomfortable.
- Leaves a small amount of unmixed cake mixture around the bottom of the bowl.
- The cooking manual says it can "successfully whisk just one egg white", but in our tests it needed two.
- Fairly noisy.

BREVILLE WIZZ MIX PROFESSIONAL BEM400

Price: $350

GOOD POINTS

- Beater is very easy to attach.
- Bowl has a handle.
- Easy to lift and lower motor head.
- Speed control gives clear indication of functions— for example, 1 for folding, 5 for whipping.
- Comparatively quiet.

BAD POINTS

- Leaves a small amount of unmixed cake mixture around the bottom of the bowl.
- No eject button to remove the beater, so it can be messy.
- Slide control a little stiff, with a small grip.
- No pouring shield, which is awkward when adding ingredients during mixing — we had to reduce the speed to stop ingredients splashing out.

KENWOOD PATISSIER KITCHEN MACHINE KM270

Price: $399

GOOD POINTS

- Beater is very easy to attach.
- Bowl has a handle.
- Easy to lift and lower motor head.
- Comparatively quiet.

BAD POINTS

- Leaves a small amount of unmixed cake mixture around the bottom of the bowl.
- No eject button to remove the beater, so it can be messy.
- Slide control a little stiff, with a small grip.
- No pouring shield, which is awkward when adding ingredients while mixing — we had to reduce the speed to stop ingredients splashing out. You can buy a pouring shield as an optional extra.

KITCHEN AID ARTISAN KSM90

Price: $659

GOOD POINTS

- Around 10 optional accessories available.

BAD POINTS

- Pouring shield needs to be removed when scraping down the bowl.
- Very heavy.
- Slide control is a little stiff, with a small grip.
- Leaves a small amount of unmixed cake mixture around the bottom of the bowl.
- No eject button to remove the beater, so it can be messy.
- Motor head is very heavy and not spring-loaded.
- Attachment knob is fiddly and can be easily lost.
- Fairly noisy.

Brand / model (in rank order)	PERFORMANCE 1 Overall score (%)	2 Performance score (%)	3 Ease of use score (%)	4 Noise (dB)	5 FEATURES Bowl lock	Whisk	Dough hook	Splash guard	Speed controls	SPECIFICATIONS Dimensions (H x W x D, cm)*
KENWOOD Chef Classic Kitchen Machine KM002	86	92	78	78	✓	✓	Single	✓	7	30 x 26 x 40
BREVILLE Wizz Mix Professional BEM400 **(A)**	84	92	73	65	✓	✓	Single		6	36 x 23 x 35
KENWOOD Patissier Kitchen Machine KM270 **(B)**	84	92	73	64	✓	✓	Single		6	36 x 23 x 35
KITCHEN AID Artisan KSM90 **(C)**	83	92	70	77	✓	✓	Single	✓	6	36 x 23 x 35
SUNBEAM Mixmaster Professional MX8800 **(D)**	82	88	72	77	✓	✓	Double		12	38 x 23 x 35
SUNBEAM Mixmaster Series II MX7700 **(E)**	74	75	73	79	✓		Double		12	34 x 24 x 34
BREVILLE Wizz Power Mix EM15	72	75	68	76			Double		12	30 x 25 x 33

* *Depth measurement taken from the back of the mixer to the front of the bowl; width includes the bowl.*

** *Includes cord, bowl and beaters.*

† *Recommended retail, as provided by manufacturers in September/October 2005.*

(A) *Available in aquamarine, yellow, pink, white and red.*

(B) *Also known as KM271, KM272 and KM 273. Available in red, blue, yellow and white.*

(C) *Available in pink, red, blue, yellow, white, black and brushed/polished metal finishes.*

s and dislikes, we've gone into some detail about the good and bad points of each machine. They're all fairly easy to clean.

SUNBEAM MIXMASTER PROFESSIONAL MX8800

Price: $400

GOOD POINTS

- Fits a small and a large bowl.
- Very easy to use controls.
- Dial speed control gives clear indication of functions — for example, 1–3 for folding, kneading; 7–9 for creaming, beating.
- Easy to add ingredients and scrape down the bowl while mixing.

BAD POINTS

- The twin beaters are different shapes and need to be placed into the correct sockets.
- Eject button for beaters is stiff, and they're difficult to remove.
- Small button for lifting and lowering the motor head, which isn't spring-loaded.
- Fairly noisy.

SUNBEAM MIXMASTER SERIES II MX7700

Price: $200

GOOD POINTS

- Easy to add ingredients and scrape down the bowl while mixing.
- Control knob is easy to use.

BAD POINTS

- Performance score not as good as the more expensive models.
- The twin beaters are different shapes and need to be placed into the correct sockets, and there's no labelling for which is which.
- The noisiest mixer tested.

BREVILLE WIZZ POWER MIX EM15

Price: $170

GOOD POINTS

- Fits a small and a large bowl.
- Easy to use controls.
- Easy to add ingredients and scrape down bowl while mixing.

BAD POINTS

- Performance score not as good as the more expensive models.
- Lowest ease of use score.
- The twin beaters are different shapes and need to be placed into the correct sockets. They don't lock into the sockets and can easily be pulled out.
- The motor head is top-heavy and can tip the base when you're lifting it, unless it's held down.
- Bowl doesn't lock firmly into position, and the revolving plate has to be repositioned manually when changing the bowl size.
- Fairly noisy.

Weight (kg)**	Warranty (years)	Origin	Manufacturer / distributer	Price ($)†
9.0	1 **(F)**	Italy	Delonghi	799
7.6	1 **(G)**	China	Breville	350
7.8	1	China	Delonghi	399
10.5	3	USA	Peter McInnes	659
8.5	1 **(G)**	China	Sunbeam	400
5.9	1	China	Sunbeam	200
4.9	1	China	Breville	170

(D) *Available in blue, silver, white and red.*
(E) *Available in silver, white, red, blue and yellow.*
(F) *Plus five years for parts on the motor.*
(G) *Plus five years on the motor.*

1 Overall score

This is a combination of the following scores:

- Performance: 60%
- Ease of use: 40%

2 Performance score

Scores for the following functions were weighted equally:

- Whipping egg whites. Where supplied, the wire whisk and smaller bowl were used for this test.
- Mixing cake mixture. The heavy-duty beaters were used in this test.
- Kneading dough. We used the dough hook(s) for this test.

3 Ease of use score

This is a combination of the following considerations (weighted equally):

- Use of controls, labelling, etc.
- Lifting and lowering head/using the locking mechanism.
- Removing and replacing the bowl.
- Inserting and removing mixing tools.
- Adding ingredients while the machine is operating.
- Cleaning the main unit and parts.

4 Noise

This is the noise measured at arm's length (0.5 m) from the mixer when it's operating at its highest speed. Most are fairly noisy. The two quieter models produced a noise level around that of a normal conversation.

5 Features

See *What to look for*, page 25, for an explanation of these and other useful features.

Too many preservatives

Preservatives are on the agenda again, in particular sulphites and benzoates, used in the food industry to prevent the growth of bacteria and moulds and lengthen the shelf-life of foods. Sulphites are likely to be in foods such as sausages, dried apricots and cordial, and benzoates in non-cola soft drinks, orange juice and cordial.

And who's most likely to be eating and drinking a lot of those foods? Children, according to the results of the latest Australian Total Diet Survey on preservatives in food, conducted by Food Standards Australia New Zealand (FSANZ). It found that some people, in particular children, may be exceeding the acceptable daily intake (ADI) of sulphites and benzoates. The major concern is for people with asthma, as a high intake of sulphites can cause chest tightness and wheezing.

As a result of the survey FSANZ will be reviewing the use of sulphites and benzoates in the food supply. In the meantime, if you're concerned about getting too much of them in your food, look out for the following additives in the ingredients list and limit foods that contain them: sulphur dioxide (220), sodium sulphite (221), sodium bisulphite (222), sodium metabisulphite (223), potassium metabisulphite (224), potassium sulphite (225), potassium bisulphite (228), benzoic acid (210), sodium benzoate (211), potassium benzoate (212) and calcium benzoate (213).

Calling all foodies

Have you ever wanted to tell the government what you think about what goes into food and how food products should be labelled? If so, the independent agency responsible for setting food regulations, Food Standards Australia New Zealand (FSANZ), is inviting you to join a new consumer committee.

FSANZ receives advice from a range of individuals and organisations, including CHOICE, as well as having a consumer representative on its board. Through a voluntary consumer committee, it wants to give consumers a greater voice in its decision-making, in consultations and in developing responses to emerging food issues.

It's expected the consumer committee will meet several times a year by teleconference, and a lot of the work will be carried out by email. If you were appointed to the committee, you'd be provided with the information necessary to participate in discussions. FSANZ would also understand that people on the committee contribute as much and as often as their circumstances allow.

Some committee members may be in a position to provide advice to specific project teams, working on regulations for nutrition and health claims, mandatory fortification, food safety standards for the primary industries and other current issues. The consumer perspective is vital to the final regulation.

So, if you'd like to register an expression of interest in joining the consumer committee, please contact Indiana Holley on (02) 6271 2681 or by email at indiana.holley@foodstandards.gov.au. You can find out more about FSANZ at www.foodstandards.gov.au.

Preserving the packet instead of the food

Talking of artificial preservatives (see above), most of us would choose to eat food without them if it was the only consideration, but in fact most of us also demand processed food that's convenient, cheap and free of bugs that can make us sick.

But in a possible solution to the over-consumption of some preservatives, scientists at the Fraunhofer Institute in Germany have devised a process in which the packaging of the food is coated in preservatives rather than their being added to the food. Direct contact between the packaging and the exposed surface of the food provides preservatives where they're most needed to halt the growth of microbes.

School backpacks

An ergonomically designed school backpack can reduce back and neck pain in school students, but only if they carry it correctly.

PHOTOS: ISAAC ROSS

Textbooks, notepads, pencil case, lunchbox, water bottle. Perhaps a laptop, sports gear, music or project work — the stuff high-school students carry around some days can certainly add up. That's where a good, versatile backpack comes in. It'll let the busy student carry all their daily necessities safely, while keeping their hands and arms free.

But inappropriate use of schoolbags, including backpacks, can contribute to acute and long-term spinal problems. The high number of reports of adolescents suffering from regular episodes of spinal (back, neck or shoulder) pain are of concern worldwide.

Findings from recent Australian research are just as disturbing. South Australian studies into the spinal health of more than 2500 school students found about half of them repeatedly reported recent spinal pain episodes. Victorian studies found one in three school students suffered significant back or neck pain, often thought to be caused by carrying heavy schoolbags (almost half the students carried bags weighing more than 10% of their body weight, the recommended maximum for growing children).

Poor posture when carrying a loaded backpack is one of the intrinsic risk factors for spinal problems, and it's magnified if students repeatedly carry a heavy load, carry it poorly (over one shoulder only, for example) or for too long a time.

Considering that 60–80% of Australians will experience a back problem at some stage, and that the damage students are doing now may set them up for back problems later in life, it's particularly important that we look after our children's backs.

Providing them with a good school backpack is crucial, but educating them on how to use it appropriately is just as vital.

GETTING IT

Many schools don't give you much of a choice: the backpack is part of the uniform — it's in the school colours and probably emblazoned with its logo. If you'd prefer your child to use a different bag from the official one, perhaps a more ergonomically designed one, ask the appropriate body at the school to justify its choice of bag. Your suggestions might well be taken up in the future, or it might kindle debate on the topic — and in the meantime they might agree to let your child use a better bag.

Children use a school backpack five days a week, 40 weeks a year. It's thrown on the ground, used as a seat and often treated with little care and attention. To withstand such rough treatment, a school backpack must be designed to last.

A major supplier of school backpacks, bags and accessories, **SPARTAN SCHOOL SUPPLIES**, says it aims to provide a wide choice of strong and durable bags at an affordable price. Its range of backpacks comprises the **Omni Pak**, the larger-capacity but lightweight **Lite Pak**, the traditional **Two Way** (a backpack that also has handles), the **Ergo Two Way**, plus two endorsed bags described overleaf. **SPARTAN** bags are primarily available through and priced by

IN A NUTSHELL

- **Keeping the weight** *down as far as possible (to less than 10% of the student's body weight) and carrying a backpack appropriately may help reduce the incidence of acute and long-term spinal problems.*
- **If your kid** *will only use a trendy backpack rather than an endorsed brand, here's what to look for in a good schoolbag.*

DANGEROUS GOODS?

The myDr.com.au website reports that a US study of injuries to schoolchildren involving backpacks showed the major acute injury risk was tripping over one (28%), followed by being hit by one (13%), which suggests backpack safety should also include how to handle it when off the back.

schools (usually with the school's logo), but you can also buy directly from the supplier (www.spartanss.com.au or phone (03) 9874 8955, or 1800 815 557 from outside metropolitan Melbourne).

ENDORSED BY ...

Also on the market are a few ergonomic school backpacks, designed to reduce the incidence and severity of back and neck pain associated with carrying a heavy backpack and endorsed by professional back care organisations. These endorsements may be based on the organisation's own or independent evaluation, but not always on comparative testing. So they're an indication that professionals in the field have given the thumbs-up to the pack, not necessarily that they're the best you can find.

The **CHIROPAK**, endorsed by the Chiropractors' Association of Australia and the World Federation of Chiropractic, was developed by **SPARTAN** and researchers from the Department of Chiropractic at Macquarie University (NSW). Its aim is to allow children to carry their heavy load safely — with around 80% of the weight resting on their pelvis and hips, the body's major load-bearing structure, rather than the spine.

Features that help achieve this include a padded hip belt, an adjustable spine board (also called internal spine) and a removable sternum (chest) strap to help stabilise the load and keep it centred over the shoulders. For more on these and other features, see *What to look for,* far right. It's available in four sizes, providing for Year 7 students upwards, and retails from around $99 to $120; for your nearest stockist, contact **SPARTAN**.

Also available through **SPARTAN** is the **PHYSIOPAK**, a backpack endorsed by the Australian Physiotherapy Association and designed with the aim of minimising postural change in school students. It's based on research by the Centre for Allied Health Evidence (www.unisa.edu.au/cahe) at the University of South Australia, which set out to design a pack with limited capacity, as it had found that students would fill up even a large backpack.

The **PHYSIOPAK**'s moulded base and frame are designed to keep the load at the correct angle to the spine and stop it from sagging away from it, even when no compression straps are used (they're provided). It has many of the other features of a good backpack (see *What to look for*, far right), is available in four sizes and retails from around $88 to $104. (**SPARTAN** told us it will launch a 'baby' **PHYSIOPAK** aimed at primary school students in February.)

The latest of the endorsed packs to come on the market is the **SAS ACADEMIC**, a school backpack designed by **EXPLORE PLANET EARTH** in collaboration with a chiropractor and endorsed by the Chiropractic & Osteopathic College of Australasia. This pack has a special harness that lets you adjust the pack to fit a good range of heights, and shoulder straps that attach to different buckles to cater for different shoulder widths and torso lengths. Ask the supplier for help with the initial fitting.

Apart from the usual features of a good backpack, the **SAS ACADEMIC** also has a reflective strip (for better visibility), rubber feet and a rain cover. It's available in three sizes claimed to be suitable for kindergarten to Year 12 students and can be personalised to suit the school's requirements. It sells for $90–$100; for a list of suppliers, go to www.sasacademic.com or phone **EXPLORE PLANET EARTH** on (02) 8338 6999.

BRANDS AND TRENDS

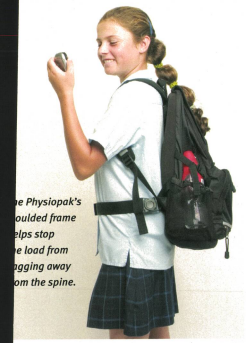
At schools that don't recommend a particular backpack, **BILLABONG** and **RIP CURL** are probably two of the brands students are likely to choose. Although **BILLABONG** doesn't market any particular backpack for school use, they're nevertheless popular with students. Some of the features that might help posture include ergonomic shoulder straps and a padded back; others your kids might like include base feet and, being a surf brand, a wet pouch, of course. They range in size from 10–28 L and in price from around $30–$80.

Of the many different backpacks in the **RIP CURL** range, some are particularly designed for school use, others for "more demanding" situations. Some of the features include laptop compartment, reinforced base piping and oversized zips. Some surf or mountain packs (which some kids also use for school) come with things like a curved back section and sternum, waist or compression straps. Your child, though, is probably more attracted to the brand-name graphics and features such as skateboard straps and loads of customised pockets for things such as surfboard wax (insulated) or an MP3 player. With some bags, you might be able to satisfy both sets of requirements. **RIP CURL** backpacks range in size from 12–38 L and in price from about $30–$100.

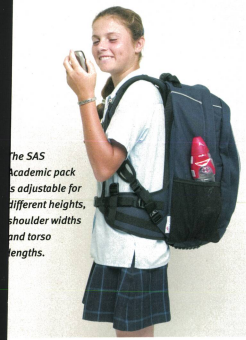
USING IT

While a pack with a limited capacity (like the **PHYSIOPAK**) and the 'less than 10% of body weight' benchmark are attempts to tackle the problem, what can you do if kids can't avoid carrying more sometimes? That's where using a backpack properly comes in.

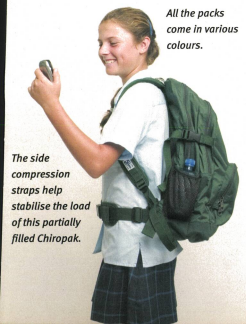
Backpacks are designed to carry a load safely — symmetrical, stable and close to the spine — but not if they're worn casually slung over just one shoulder. If necessary, show your child how to put the backpack on properly: lift it up by the loop with both hands and



e Physiopak's oulded frame elps stop e load from gging away om the spine.



The SAS Academic pack s adjustable for different heights, shoulder widths and torso engths.



All the packs come in various colours.

The side compression straps help stabilise the load of this partially filled Chiropak.

bent knees, facing the straps and pushing up with the legs. Place one strap over the shoulder, then the other, or put it on the edge of a desk and loop both arms through together.

A backpack should be worn so the waist strap (or hip belt) sits firmly where intended. Shoulder straps should be adjusted so the child doesn't have to lean forward and the base of the pack rests on their hips, not on the bum, as many like to wear it.

Before your child heads off to school, make sure they've packed their backpack properly. Items shouldn't be able to move around; the heaviest ones should be packed closest to their back to reduce stress on the spine, lighter items away from the spine. Encourage them to repack their bag daily, only take what they need that day and make use of lockers at school, if available.

WHEELING IT?

If your child needs to carry lots of things regularly, a bag with wheels and a pull-out handle might seem like a good idea. The theory — that they take the weight off the back and thereby lower the risk of damaging the spine — is fine, but there are concerns about the practical implications.

Students on their way to and from school are likely to use their bag in an altogether different manner from adults who are between flights. They may have to pull it over bumpy terrain, on grassed footpaths, lift and carry it on stairs or onto public transport. Experts think using one in such conditions could not only be awkward but create other problems, such as minor injuries from bags flipping over, a sore arm (as we tend to use one hand only to pull the bag), or a back injury from lifting a heavy bag — they're not likely to weigh any less than a packed backpack.

School supplier **SPARTAN** also has a wheeled bag in its range, but generally advises schools to trial them first, and has found that many schools have decided against a trolley bag after a trial. ■

HOW MUCH IS TOO MUCH?

A growing child shouldn't be carrying a backpack that weighs more than 10% of their body weight (less for kids who are overweight). That's around 4–5 kg for a 40–50 kg high school student and represents, in practical terms, only three medium to large textbooks and a lunchbox.

The Children's Hospital at Westmead, NSW, advises taking regular rests if a heavy load is carried over a long distance, as fatigue can increase the injury risk.

What to look for

A good school backpack should:

- Be appropriately sized for the child. It should neither extend past their shoulders when sitting down with it, nor be wider than their chest.
- Be comparatively lightweight. Fully packed it shouldn't weigh more than 10% of the child's body weight (that's the lean body weight, so it's even less for overweight children).
- Be sturdy and reasonably water-resistant (or have a rain cover). The material should be firm to prevent sagging. The base should be abrasive-resistant and/or reinforced.
- Have a moulded frame and/or an adjustable hip or waist strap, so most of the weight rests on the hips and pelvis, not on the shoulders and spine. The waist/hip belt is particularly important to secure the load when walking, running or cycling.
- Have adjustable, broad, padded shoulder straps that help distribute the weight evenly and don't dig into the wearer.
- Have a padded or quilted back for comfortable wear.
- Have compression straps at the sides to draw the load together and bring it close to the child's back. They'll also help stabilise the contents of a partially filled pack.
- Have a sternum (chest) strap to help stabilise the load and prevent the straps slipping off the shoulders. It should sit about 10 cm down from the Adam's apple. (Look for a detachable strap if you're not sure your child will wear it.)
- Have several pockets to help with even weight distribution and organisation inside. A drink bottle holder on the side keeps potential spillages outside the pack.

Buzz off!

We put 12 insect repellents, both natural and synthetic, to the test to find out which are best at keeping mozzies at bay.

IN A NUTSHELL

- **Repellents containing** *DEET or picaridin are much more effective than repellents with 'natural' active ingredients.*
- **Our test results suggest** *that for products with the same active ingredients in the same concentrations, you can generally expect the same performance — so you can buy on price.*

Nothing spoils a balmy summer evening quite like the buzz and bite of mosquitoes. Swollen, itchy bites are bad enough, but mozzies can do even worse. They can carry diseases, particularly in tropical areas: malaria, encephalitis, Ross River virus, yellow fever and dengue fever. Contracting a disease from a mosquito bite is still a very real risk in many parts of Australia.

The 12 insect repellents we tested for their effect on mozzies included examples of all types of product: aerosol sprays, a pump spray, roll-ons, lotions and gel. Seven of the products have synthetic active ingredients (DEET and picaridin) and five have natural ingredients such as pyrethrum or melaleuca (tea-tree) oil.

GETTING BITTEN

Each product was tested on five different volunteers. A specified amount was applied to a volunteer's forearm and spread evenly. They put their treated forearm into a cage of 50 mosquitoes for one minute at intervals of half an hour for three hours, then again at the end of a fourth hour.

The number of times a mosquito landed and attempted to bite was counted. This count was then compared to the number of attempted bites in one minute on an untreated arm. The fewer the bites on the treated arm compared to the untreated one, the higher the score. If no mosquitoes landed and tried to bite the treated arm, the product scored 100% repellency for that period. A score of 0% would mean the product had no effect. All the products had at least some repellent effect.

This is a tough test: you wouldn't normally get so many mosquitoes in close proximity. If a product performs well in this test, it's likely to perform very well in normal usage.

As for how long repellency will last, all insect repellents sold in Australia have to be registered with the Australian Pesticides and Veterinary Medicines Authority (APVMA), and any claims of repellent duration have to be proved in standard testing. This differs from our comparative test in that products are tested for as long as it takes before the product becomes ineffective. So if a product claims to be effective for a certain period, say six hours, you can be confident it'll be effective for at least that long.

ACTIVE INGREDIENTS

There are several active ingredients commonly used in insect repellents. They can be separated into synthetic (man-made) and those based on natural sources.

Synthetic

- **N,N-diethyl-m-toluamide (DEET):** Also shown on labels as diethyltoluamide, DEET is the most commonly used repellent and is very effective. However, more DEET doesn't automatically mean better repellency: the **BUSHMAN** product with 80%

DEET didn't perform any better in our tests than the **AEROGARD**, **BI-LO** and **BLACK & GOLD** products with 11–13.5% DEET.

A product with a higher concentration of DEET is likely to stay effective for longer, though. Tests have shown that products containing 10% or a little more can remain effective for five or six hours, or even longer. The **AEROGARD** roll-on tested, for example (11.47% DEET), is rated for six hours, while the **BUSHMAN** gel with 80% DEET can, according to the manufacturer's own tests, provide 100% repellency for up to 12 hours.

Choosing the lowest DEET concentration that still suits your purpose is recommended, because DEET can cause problems such as dermatitis, especially if used in large quantities for an extended period of time (such as several days in a row). In rare cases it has been linked to encephalopathy and death, mainly in children who had been exposed to excessive and prolonged use. Children absorb chemicals through their skin more readily than adults, which is why lower-concentration products are available for them.

A recent study also showed that combining sunscreens and DEET could carry some risk. Oxybenzone, an active ingredient in some sunscreens, increases the permeation rate for DEET when the two are mixed together: this means the skin absorbs more DEET than it would normally. This may increase the risk of high blood pressure.

Some countries have banned high-concentration DEET products for health reasons: Canada, for example, has banned products with more than 30%.

DEET can also dissolve plastic, such as on spectacle frames, watches and mobile phones, so try not to let plastic items touch DEET or DEET-treated skin.

Picaridin: This is a relatively new repellent, becoming available only in the last few years. It's comparable in effect to DEET and some early studies show it may be less irritating to the skin. In Australia it's currently available only in the **AUTAN Repel** product range.

Di-n-propyl isocinchomeronate (DPI): This is a fly repellent and isn't very toxic.

N-octyl bicycloheptene dicarboximide (OBD): OBD is a synergist: that is, it enhances the repellent effect of the main active ingredient.

Permethrin: An insecticide rather than a repellent. It's a pyrethroid (a synthetic pyrethrin — see page 34), mainly used to treat fabric such as clothing, shoes and tents. None of the products in our test contains permethrin.

Piperonyl butoxide: Another synergist, used mainly with pyrethrins and pyrethroids.

Triclosan: An antibacterial agent, added to repellents to help disinfect insect bites. It can cause irritation to sensitive skin.

Natural

Citronella: Also shown on labels as citronellal. A common ingredient in insect-repellent candles and burners, citronella is also commonly used in personal insect repellents. It's derived from certain cultivated grasses.

Lemon eucalyptus oil: Tests have shown that this can be as effective against mosquitoes as low-concentration DEET repellents. Earlier this year, the Centre for Disease Control in the USA listed oil of lemon eucalyptus alongside DEET and picaridin as an effective repellent. The APVMA has also approved it for use in insect repellents. However,

TURNING UP THE HEAT

*Fast relief from insect bites might be at hand with a new battery-powered device, the **BITE AWAY**. It applies localised heat of around 50°C to the bite, breaking down the protein-based insect venom and reducing itchiness and swelling. The Austrian consumer magazine* Konsument *reported in August that the device works quite well provided you use it straight after being bitten. We don't know if it's available in shops here but a Google search found several websites selling it.*

WHAT TO BUY

For top protection from mozzie bites, buy any product that contains DEET or picaridin, bearing in mind that the lower the concentration, the more often you'll have to apply it. Of those tested that contain DEET or picaridin, **BI-LO Roll On Insect Repellent** is the cheapest. As the table (page 34) shows, it has identical active ingredients and concentrations to the more expensive **AEROGARD**. It's worth comparing ingredients and prices: a supermarket brand can work just as well as a brand-name repellent.

Of the tested products based on 'natural' chemicals, **SKOOT** aerosol was the most effective but is the most expensive product per application. **THURSDAY PLANTATION** and **NATRALIA** lotions are the most cost-effective natural repellents on test; the roll-ons and aerosols cost more (see the table for details).

YOU PROBABLY DIDN'T WANT TO KNOW...

... But all the mozzies in our test were female, as it's only females that drink blood: they need it to nurture their eggs. For their own food, both male and female mosquitoes generally drink plant nectar.

because it's only recently been approved very few products using it are available — none in our test contains lemon eucalyptus oil.

- **Lemon-scented tea-tree:** Also shown as *Leptospermum petersonii* leaf oil. It's a repellent and also has antibacterial properties.
- **Melaleuca oil:** Also known as tea-tree oil, usually derived from leaves of *Melaleuca alternifolia*. It has strong antibacterial and antifungal properties and is a traditional Aboriginal insect repellent.
- **Pyrethrum/pyrethrins:** A natural repellent/insecticide extracted from petals of a type of chrysanthemum.

THE VERDICT

The synthetic repellents (DEET and picaridin) clearly outperformed the natural repellents. All the synthetics gave almost 100% repellency for the first two hours, and all but **RID Kids**, with its lower concentration of DEET, were still working as well after four hours.

The natural repellents were only moderately effective and most tended to be at their most effective for only the first 30–60 minutes. You'd have to reapply them regularly if you needed several hours of protection. We'll be interested in testing products containing lemon eucalyptus oil (see *Active ingredients*, page 33) when they become available.

If you live in an area that doesn't have disease-carrying mosquitoes, are worried about the potential health effects of synthetic chemicals and are prepared to put up with a few bites, some natural products are definitely better than nothing. **SKOOT** was the most effective of those tested (it claims to be effective up to six hours), with the two **THURSDAY PLANTATION** products not far behind — but all five natural products tested were 20% less effective (or worse) than the top repellents, even in the first two hours of the test.

If you live in an area where mosquitoes carry disease and/or you really want to avoid being bitten, use a DEET or picaridin-based product. Used as directed they're pretty safe and very effective.

Don't use any repellent more than you have to, even a 'natural' one, especially on very young children. You're generally advised not to use one at all on babies, so if you're in a danger area for disease ask a doctor or travel health specialist how you can protect them from bites. And as always, follow the instructions on the label. ■

Vitamin B_1

Vitamin B, (thiamine hydrochloride) has a folklore reputation as an insect repellent. The idea is that if you take a daily vitamin B, supplement your skin will excrete the excess vitamin and the smell of this will repel mosquitoes. There are even products marketed for this purpose, such as **MOZI FREE**, an oral liquid vitamin B, supplement. Eating garlic or brewer's yeast is also thought by some to give protection against mosquitoes.

The only problem is that there's no hard evidence to back up such claims. In fact there are no orally administered products proven to have any insect-repelling qualities. Folk remedies are sometimes founded on practical truths, but these seem to be just myths.

Brand / product (in order of two-hour performance)	Type	1 Performance for two hours (%)	2 Performance for four hours (%)	3 Active ingredients
BI-LO Roll On Insect Repellent	Roll-on	100	98	11.47% DEET, 4.18% DPI, 2.77% OBD w/v
AEROGARD 6 Hour Protection Tropical Strength	Roll-on	99	98	11.47% DEET, 4.18% DPI, 2.77% OBD w/v
BLACK & GOLD Personal Insect Repellent	Aerosol	99	98	13.33% DEET, 1.67% OBD, 0.83% DPI w/w
BUSHMAN Water Resistant Insect Repellent 80% DEET Heavy Duty	Gel	99	98	80% DEET w/w
AUTAN Repel	Aerosol	96	96	9.5% picaridin w/w
OFF! SKINTASTIC Personal Insect Repellent Spray	Pump spray	94	92	6.975% DEET, 2.79% DPI w/v
RID Kids Repellent	Roll-on	93	88	7% DEET, 2% OBD, 1% DPI, 0.1% triclosan w/v
SKOOT Insecticide and Insect Repellent	Aerosol	79	78	1% pyrethrins, 4.5% piperonyl butoxide w/w
THURSDAY PLANTATION Walkabout Insect Repellent	Lotion	76	68	1.89% melaleuca oil, 0.945% lemon-scented tea-tree oil, 2.835% citronellal w/w
THURSDAY PLANTATION Walkabout Insect Repellent	Roll-on	76	67	1.89% melaleuca oil, 0.945% lemon-scented tea-tree oil, 2.835% citronellal w/w
NATRALIA Insect Repellent	Lotion	67	64	3% citronella, 2% melaleuca oil w/w
NATRALIA Insect Repellent	Roll-on	61	51	3% citronella, 2% melaleuca oil w/w

* *Recommended or average retail price, as supplied by manufacturers in September 2005, unless noted otherwise.*
(A) *The price we paid in June 2005.*

JAMIE TUPPEY

Mosquito species and diseases

Australia is home to several species of mosquito. Many of these are not a major threat to humans, due to not being blood feeders or known disease carriers.

Any mosquito bite carries some risk of disease, but in most cases it's very small. However, in some areas it's higher — Queensland, the NT and northern WA, where diseases like dengue fever or encephalitis are more commonly found. Ross River virus is also a risk in most areas of Australia, but mainly in tropical or rural areas. If you live in a region where such diseases are a known risk, it's best to protect yourself from mosquito bites.

Three of the most common potentially dangerous species are:

- Dengue mosquito (*Aedes aegypti*): Currently found in Queensland and previously known in NSW, WA and the NT. It can carry dengue fever, yellow fever, and possibly also Ross River virus, encephalitis and canine heartworm.
- Common banded or freshwater mosquito (*Culex annulirostris*): Found across Australia. It can carry encephalitis, Barmah Forest and Ross River viruses, plus canine heartworm.
- Salt marsh mosquito (*Aedes vigilax*): Found across most of Australia, mainly around coastal areas. It can carry Ross River and Barmah Forest viruses, and also encephalitis and canine heartworm.

ze	Price ($)*	4 Cost per application (cents)
0 mL	1.25	6
0 mL	4.50	22
50 g	4.10	13
5 g	10.90	35
50 g	5.30	17
00 mL	5.50	13
0 mL	3.85	16
3 g	7.95	168
25 mL	7.10 **(A)**	14
0 mL	5.35 **(A)**	26
25 mL	6.95 **(A)**	13
50 mL	5.95 **(A)**	29

1 Performance for two hours

This is an average score from five volunteers, calculated from the number of attempted mosquito bites in one minute, counted 30, 60, 90 and 120 minutes after application, compared to the number of attempted bites on an untreated arm. The higher the score, the more effective the repellent. Because product effectiveness can vary due to usage, personal body chemistry and so on, these results could vary from person to person. All scores of 90 and over can be considered excellent protection.

We used the dengue mosquito *Aedes aegypti*, as it can be bred reliably in lab conditions and is active in the daytime. It's commonly used for such tests.

2 Performance for four hours

We didn't rank the repellents on their performance beyond two hours because they all claim different efficacy times, but we've included their average performance across four hours for your information.

3 Active ingredients

DEET: N,N diethyl-m-toluamide.
DPI: Di-n-propyl isocinchomeronate.
OBD: N-octyl bicycloheptene dicarboximide.

See *Active ingredients*, page 32, for more information. Concentrations are expressed as w/w (weight for weight) or w/v (weight per volume).

4 Cost per application

This calculation is based on the average amount required to cover two adult forearms, based on the amounts used in our test. As everyone's real usage could be different from this, the cost per application is only comparative.

SAME INGREDIENTS, SAME EFFECT

The 12 products tested are representative of the mosquito repellent market, but far from all of it. For example, **BI-LO** and **BLACK & GOLD** are only two examples of supermarket brands, **AEROGARD** and **AUTAN** aren't the only brand-name products available, **THURSDAY PLANTATION** and **NATRALIA** aren't the only 'natural' repellents, and **RID** isn't the only product made for kids.

In general, however, the same active ingredients in the same concentrations in any brand of the same type of repellent (aerosol, roll-on, lotion, etc), should deliver the same performance — so you can buy on price.

Your basic shopping rights — in time for the upcoming shopping season.

IN A NUTSHELL

- **Avoid impulse buys** *— do some research and compare prices before you buy.*
- **If what you buy** *is faulty you're entitled to a refund, but the retailer isn't obliged to give you one if you just change your mind.*
- **Get all lay-by conditions** *in writing before you commit yourself to a purchase.*

Can you get a refund for a gift that isn't working, even without the receipt? Do you have to accept a credit note for the electronic gadget that's faulty? And what should you know when choosing a lay-by? With the Christmas gift-buying season in full swing and the summer sales not far behind, it could be time to brush up on your shopping rights.

DO YOUR RESEARCH

You can save yourself a lot of hassles later on if you do some research before you buy — avoid impulse buys. Familiarise yourself with the item you want to buy and the features you want, especially with a major purchase. CHOICE articles are a good starting point for your research. Then shop around and compare the prices it's offered for, so you can spot a genuine bargain.

For major purchases such as a large appliance, computer or car, personal subscribers could let **CHOICE Shopper** do the bargain-hunting for them. Call 1300 360 655 with the brand and model you want to buy and the best price you've seen, and we'll try to get a better deal for you. You can phone weekdays during working hours, and you'll need to tell us your subscriber number (from the mailing label with the magazine).

CHECK OUT THE TERMS

When you're ready to buy, examine the item carefully in the shop. Take it out of its packaging if possible, check for flaws or defects, and try it on or out. Then, if all is to your liking, ask the shop about its returns policy. It's good to know in advance whether you can return it, and what conditions apply.

Retailers aren't obliged to refund your money if nothing's wrong with the goods you bought, but you've simply changed your mind. They may do so, but on their own terms. For example, some give 'no questions asked' cash refunds; others will only exchange the product, sometimes within a certain time period or only if it's still originally packed and has all labels attached, or will offer you a credit note instead, possibly with a time limit.

Only go ahead with the purchase if you're happy with the returns policy. For example, if you're unsure whether the top you're interested in will match your pants — and it's the only one you like in the shop — you'll need assurance that you can get a refund, not just an exchange.

However, if the watch you gave your dad for Christmas stops working on Boxing Day, or the t-shirt you got fades beyond recognition after just one wash following the care instructions, you're entitled to a refund, regardless of the store's returns policy.

YOUR LEGAL RIGHTS

'No Refunds' signs are illegal; they can't take away your legal right to compensation if what you bought is faulty. All products sold in Australia must meet basic standards; if they don't, you're entitled to a refund, repair, replacement or compensation. In essence, goods must:

- **Be of merchantable quality**, meaning they must meet a basic level of quality and continue to work for a reasonable time. For example, if your TV with a 12-month manufacturer's warranty developed a fault you weren't responsible for two months after that warranty period, the manufacturer would probably have to repair it free of charge under your statutory warranty rights, as you could reasonably expect a TV to last more than a year.
- **Be fit for the purpose**, meaning they must be able to do the job you were led to believe they would do and meet the purposes they're advertised for.
- **Match the description** or sample you based your purchase decision on, including information given

in advertising, demonstrations, labelling, promotions and by the salesperson.

- **Have no defects** that affect their merchantable quality, unless you knew about the defect beforehand (as with 'seconds').

These statutory, or implied, warranty rights are part of the Trade Practices Act and apply Australia-wide, regardless of the store's returns policy. They might give you more protection than a manufacturer's written warranty — something worth remembering before you fork out for an extended warranty.

REFUNDS

If a product fails to meet any of the four key consumer guarantees discussed above, you're entitled to compensation, regardless of the store's policy on refunds and whether or not the product is still within its manufacturer's warranty period. A refund should be in cash if you paid in cash, or credited to your account if you bought by credit card.

The retailer may offer you a replacement product, repair or a credit note, but you can insist on a refund, if that's what you want and you qualify for one. It depends on the circumstances whether you can claim a full or partial refund or repair — how much you paid is taken into consideration as well as the way the product was described in any promotional material, how long you've had it and how much you've used it.

If you can take the defective product back to the retailer, do so as soon as possible with your proof of purchase (generally a receipt). If you can't transport it, arrange the return with the retailer, who'll have to pay any freight costs. Don't let them fob you off to a distant manufacturer: it's the retailer who has to give you redress.

However, there may be occasions when it's easier to take a defective product straight back to the manufacturer for compensation — when you have no receipt or don't know where a gift that doesn't work was bought, or if you want to get it replaced or repaired under the manufacturer's warranty, if the fault develops during the warranty period.

LAY-BY

If you're a bit strapped for cash but want to start your Christmas shopping early, lay-by lets you pay for a product over a certain time while the retailer stores it. It's an alternative to using credit facilities and means you save on interest, but you're likely to get charged certain fees. Check the terms and conditions before you commit yourself to buying.

A lay-by is a binding contract, so it should be in writing and stipulate all details about the goods, deposit and payment amounts, payment frequency, the length of the lay-by and any charges that apply.

SHOPPING ONLINE

More and more people are buying goods via the internet, phone or mail order. Shopping from home certainly has its benefits — you can stay in your PJs, needn't worry about checkout queues, and may have a much larger range of goods to choose from than in the shop down the road. However, in the global shopping environment the internet has opened up, your consumer rights can only offer you limited protection.

While sellers have to abide by the same laws that apply to traditional retail transactions, it may be more difficult to enforce your rights if the company is based overseas. It's therefore very important to ensure you're dealing with a reputable trader.

On the website, look for full contact details, privacy policy, terms and conditions and a secure payment process. The item you're buying should be well described and the price, availability, charges, and payment and refund policies clearly displayed. For peace of mind, you might also want to check before you buy when you can expect delivery of the goods and what to do if there's a delay.

BUYING AT THE DOOR

Tempted to buy goods or services offered at your door or by phone? Beware of 'free gift' offers and hard-sell pressure tactics, so you don't end up buying something you don't really need or want. However, if it seems to be just what you want and you buy at the door, you're still entitled to change your mind.

Door-to-door sales are covered by state laws and are subject to a cooling-off period, in which you can rethink the purchase and withdraw from it without penalty. Some conditions usually apply to the cooling-off period. It's generally 10 days (five clear business days in NSW) and tends to exclude financial products, charitable donations and business transactions. It applies only if the door-to-door seller arrives unannounced and to purchases over a certain amount ($75 in Queensland, $100 in NSW, $50 elsewhere).

AUCTION OR PRIVATE SALE?

Beware when buying goods through an auction or private sale; refund rights don't apply to these transactions unless the goods have been misrepresented.

PROBLEM RESOLUTION

If you have a problem with a retailer, try to sort it out with the store first. Talk calmly and assertively (to the manager, if necessary), suggest a resolution and note down points of your conversation, including the name and position of the person you're talking to. Give them a short time to respond if they ask for it, but if you don't hear back or aren't satisfied with the response, put your complaint in writing.

If you can't resolve the matter to your satisfaction, contact your local consumer affairs/fair trading centre for advice. It may assess the matter and act as an informal negotiator, but it can't order a party to resolve the complaint — only a court or tribunal can do that. Your consumer affairs/fair trading centre can advise on what's involved in taking the matter further. ■

Car rental blues

Stuart West from the Sunshine Coast recently rented a car for a week's holiday in the Yarra Valley with his wife.

As is usually recommended, he asked for an inspection of the car when returning it to the rental company. "The guy was offhand — he scribbled 'nil' on the report and signed it, but he didn't seem very pleased about us asking for an inspection."

About two months later Stuart received a letter from the car rental company demanding payment of $419 for wheel damage. "Absolutely no damage of any sort happened to the car while it was in our possession. It was returned in a clean, tidy and undamaged condition, which was confirmed by the inspection," he says.

He wrote to the car rental company and copied the letter to the Fair Trading offices in Queensland and Victoria and to CHOICE.

Because Stuart had an inspection report, his complaint was resolved in his favour by the car rental company. He received a letter with an apology and the charge was withdrawn.

"This stresses the importance of having the car inspected before and after renting it and making sure the forms are filled in properly. Next time I won't let someone just scribble 'nil' on it. I will demand that they write something that properly describes the condition of the car," says Stuart.

It's not unusual for consumers to have problems with and complaints about car rental companies. The Ministerial Council on Consumer Affairs (MCCA) has been looking into regulating unfair contract terms, including those in the car rental industry, since 2003. It's time they stopped dithering and moved to ensure consumers get a fair deal.

Lower super tax, higher super contributions

The scrapping of the super surcharge (an additional tax of up to 15% on high income earners' extra super contributions) means making additional contributions to super will be a much more attractive proposition for high earners (those in the top two income tax brackets — $63,000 pa gross upwards).

Eureka Strategic Research, in a report commissioned by the Investment and Financial Services Association, surveyed around 300 people earning over $75,000 per year and found:

- Most of those surveyed indicated a very high awareness — and dislike — of the surcharge.
- When informed that the surcharge was to be abolished, a high proportion of survey respondents indicated an intention to increase their personal super contributions over the next 12 months.

High earners are likely to find paying more salary into super before tax ('salary sacrificing') more beneficial than making contributions from their after-tax pay. Income tax rates of up to 47.5% are much higher than the super contributions tax of 15%.

THE QUEST FOR INDEPENDENT ADVICE

According to Brett Walker, a consultant to fund managers and financial planners, consumers look for someone they can trust when they go for financial advice, and independence is one quick way to remove most potential conflicts of interest from the equation.

Under Australian financial regulations, only advisers who don't accept commissions or who give them to the client can call themselves independent. In August this year Walker began to build a list of all the independent financial advisers in Australia, but to date he's found the task rather daunting.

"There are over 15,000 financial advisers out there, but very few who can call themselves 'independent' in the true sense of the word. A lot of advisers are working for banks and other financial product houses; others say they're independently owned but still take commissions without giving any ongoing service.

"A small group are 99% independent but still have small amounts of trail commission they're trying to remove from their books. We're talking to fund managers to try to get the commissions paid to consumers without ever reaching their advisers."

Walker says he's found about a dozen independent advisers and is planning to put their details online. In order to persuade more advisers to make the leap and become independent he says he needs to show them that consumers want an online service to help them identify independent planners.

If you're looking for an independent adviser or you just think independent advice is important, go to www.independent-advice.com.au and leave your feedback.

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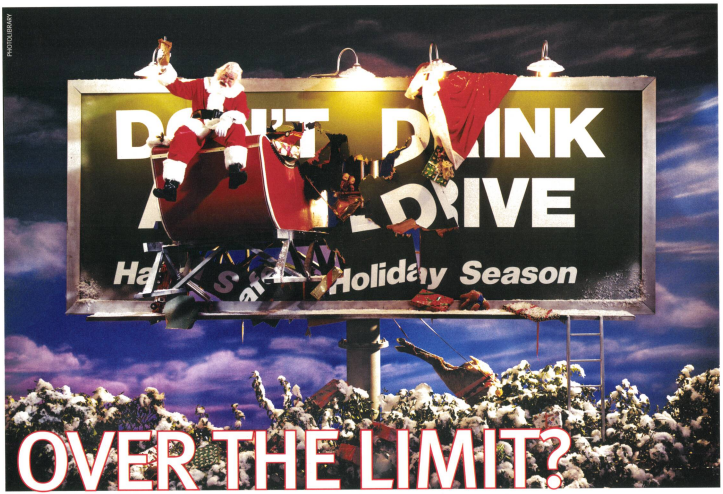


OVER THE LIMIT?

Can you rely on a personal breathaliser to tell when you're over the legal limit?

Most people are well aware of the danger of drinking alcohol and driving. But if you've had just a couple of drinks you might wonder if you're still safe to drive. How do you know whether you're over the legal limit of 0.05 g per 100 mL of blood alcohol concentration (BAC)?

Several personal breathalysers are available that claim to simply and reliably measure your BAC — though at the same time they also say their results can't be relied on as a conclusive measure. We put six of them to the test: two disposable models that only tell you whether you're over or under 0.05, and four reusable ones that give a digital readout to two (or even three) decimal places.

FIELD TESTING

Three male and three female volunteers, of varying ages and weights, trialled the breathalysers. After drinking no alcohol for 24 hours they first rated each breathaliser for its instructions and ease of use — and then had lunch and started drinking.

To keep the trial realistic, we let them drink as much as they wanted, pouring the amounts they'd normally pour, because most people don't drink strictly according to standard drink servings. However, we did measure how many standard drinks each trialist consumed, in order to give a useful comparison to government advertised safe drinking guidelines (see *How many drinks?*, page 40).

After about three hours each trialist waited for 20 minutes to allow any mouth alcohol to disappear, then took a BAC reading from each device. They also had blood samples taken at the same time. After another hour of drinking, a second round of readings and blood samples were taken. The blood samples were analysed for BAC at a professional pathology lab, and we used the results as a benchmark for the breathalysers.

USING THEM

Our trialists found all the electronic breathalysers easy to use (even after a few drinks): you generally just press a button and blow into the mouthpiece for a few seconds, and the device gives a reading almost immediately.

IN A NUTSHELL

- **On test: six personal** *breathalysers priced up to $120.*
- **They're pretty unsatisfactory** — *over-cautious to the point of losing their usefulness, or less accurate than they appear to be.*

How many drinks?

Blood alcohol concentration, or BAC, is usually expressed as the number of grams of alcohol per 100 millilitres of blood. It's just a measurement: different people will have a different BAC after drinking the same amount, and will be affected differently by it. But for legal purposes it's useful for setting limits.

In Australia, it's illegal to drive with a BAC of 0.05 or over. (That's one twentieth of a gram of alcohol in each 100 mL of blood.) Most states and territories have further limitations as well, such as zero or 0.02 limits for learners, probationary and commercial vehicle drivers. These vary from state to state so if you're not sure, check with your state government.

A commonly accepted guide for staying under 0.05 BAC is:

- **Men:** Two standard drinks in the first hour and one per hour after that.
- **Women:** One standard drink per hour. (But see below for more on standard drinks.)

Generally, it takes one hour for your body to completely process the alcohol from one standard drink. Exercise, drinking coffee or eating food won't speed this up. This is only a general guide, as many factors affect your individual BAC:

- **Body size and build.** Lean muscle tissue contains more water (and can therefore take up more alcohol) than fatty tissue, so the more lean muscle you have, the less concentrated the alcohol in your blood is and the lower your BAC. So for the same amount of alcohol consumed, a larger person will tend to have a lower BAC than a smaller person, and a lean person will have a lower BAC than someone of the same weight but with more body fat.
- **Gender.** A woman who drinks the same amount as a man of the same size will usually have a higher BAC. Women tend to have a higher proportion of body fat than men, plus have fewer of certain enzymes that break down alcohol.
- **Food consumption.** Food in your stomach slows alcohol absorption and reduces your peak BAC. However, most of the alcohol will reach your bloodstream eventually.
- **General health.** If you're in poor health, your liver will be less able to deal with the alcohol you drink and it will remain in your blood for longer. Some medicines can also increase the effects of alcohol, so be careful about drinking if you're on any medication.

WHAT'S A 'STANDARD DRINK'?

A standard drink is a measure used to define safe drinking levels. It's basically any drink that contains approximately 10 grams of alcohol — the amount the average body can process in one hour. Common standard drink sizes include:

- 425 mL of light beer (2.7% alcohol/vol).
- 285 mL of full-strength beer (4.9% alcohol/vol).
- Small glass of wine (100 mL, 12% alcohol/vol).
- Nip of spirits (30 mL, 40% alcohol/vol).

Most people don't in fact pour standard drinks. Many people's idea of a glass of wine, for example, is more like 200 mL. That's two standard drinks in one glass; even more if the wine is stronger than 12%, as many are. If you're drinking anything other than precise bar measures you're likely to be drinking more than a standard drink.

The graph on the right shows the number of drinks our trialists poured vs the number of standard drinks they would count as.

Both the disposable breathalysers consist of a glass tube with chemical crystals inside. With the **BREATHSCAN**, you break the seal and breathe directly into the tube for 12 seconds. With the **REDLINE**, you breathe into a plastic bag, slot the tube into the bag and then slowly squeeze the air out through the tube (the idea being to ensure the right amount of breath passes steadily through the tube). The trialists found the **REDLINE** rather fiddly to use.

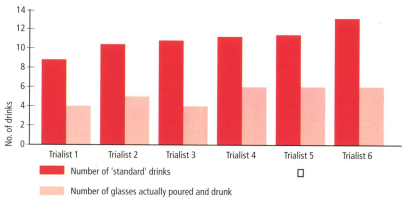
With both of these products, the crystals in the tube change colour if you're over the limit. The chemical reaction takes about two minutes. However, with the **BREATHSCAN** the colour change isn't very dramatic — it changes from yellow to pale bluish-green. The instructions recommend that if you're unsure, you should compare the used tube with an unused one — not very helpful if you've just used the last one in the pack!

THE RESULTS

Different people might want different things from a breathalyser. If all you want to know is whether you're over or under 0.05, the disposable products on test are aimed at you, because that's all they claim to tell you.

However, if you want to know what your BAC is (so you'd know how long you needed to wait before you could drive, for example), you'd probably choose a breathalyser with a digital readout.

Breathalysers measure breath alcohol rather than blood alcohol, and while there's an accepted ratio between the two, it can vary slightly from person to person. Breathalysers are therefore generally calibrated to err on the



This graph shows how many glasses our trialists poured and drank over a period of four hours, compared with the number of standard drinks they'd correspond to. Most people probably give themselves a lot more than a standard drink when they pour.

side of caution. Because of this we decided it was OK for a BAC of 0.045 or more to give a reading of 0.05 or more, or 'over the limit', depending on the type of breathalyser.

The good news is that for about 85% of the readings we took, all the tested breathalysers correctly showed whether our trialists were over or under 0.05. In the cases where they were wrong, all but one reading said our trialists were over the limit when they were under. Only the **SAFE DRIVE** measured one person who was over the limit (with a BAC of 0.057) as under (0.03–0.04).

The bad news? The lack of any better accuracy than that, for both types of breathalyser:

- The two 'blow and throw' disposable breathalysers only showed 'under the limit' when the BAC was in fact below 0.02. While they won't have you thinking you can drive when you can't, you might just as well stick to one drink as pay out for a device that doesn't discriminate any better than that.

These two models are labelled as complying with the voluntary Australian standard, and our trial wasn't a standard test. However, the standard requires a higher level of accuracy than the two breathalysers achieved in this test. They could be very accurate when used exactly to instructions in a lab, but our trial indicates it's hard to get accurate results in practice.

- Of the four models that give results to two or three decimal places, none was accurate to within 0.01 for the majority of our readings. We had nine specific blood alcohol readings from our trialists (the other three were only given as 'less than 0.02'); the **ALCOSCAN AL-2500** got to within 0.01 of the measured blood alcohol content two out of nine times, the other three digital breathalysers only one out of nine.

The tested models from left to right: the reusable Fit 168R, Alcoscan AL-2500, Safe Drive (with keyring) and Alcoscan AL-5000 (with pouch); and the disposable Breathscan and Redline.

THE VERDICT

While this was a small trial, based on its results we wouldn't recommend buying any of the six tested models.

If all you want to know is whether you're over or under the limit, the two disposable models err so far on the side of caution that they'll tell you you're over after about one drink, whether you really are or not.

If you want a more precise result, you won't get it accurately from any of the four electronic models tested. While they tend to give a more reliable 'over or under' reading than the disposable ones, you'd need to use one fairly often to make it worth the money — otherwise a cab might be cheaper.

There might be more accurate personal breathalysers out there, but finding one you can trust could be pretty hit-and-miss. ■

WHAT WE TESTED

Brand / model (in alphabetical order within groups)	**Where you can buy it**	**Price ($)***
Devices that give results to two or more decimal places		
ALCOSCAN AL-2500	www.igadget.com.au, www.halifaxandgeneral.com.au **(C)**	99.00
ALCOSCAN AL-5000	www.igadget.com.au, www.halifaxandgeneral.com.au **(C)**	119.00
FIT Digital Alcohol Tester FIT168R	www.mrgadget.com.au	49.00 **(D)**
SAFE DRIVE Personal Alcohol & Gas Detector **(A)**	www.photo.net.au	49.00
Devices that give just an 'over or under 0.05' result		
BREATHSCAN .05	Petrol stations, auto shops, www.pocd.com.au	4.30 **(E)**
REDLINE Self Test Breathalyser **(B)**	Petrol stations, www.firstaid.com.au	4.95 **(F)**

* *Recommended or average retail, as advised by distributors in September 2005, unless noted otherwise.*

(A) *Gave one false negative, measuring someone with a BAC of 0.057 as 0.03–0.04.*

(B) *Also marketed as Check 05.*

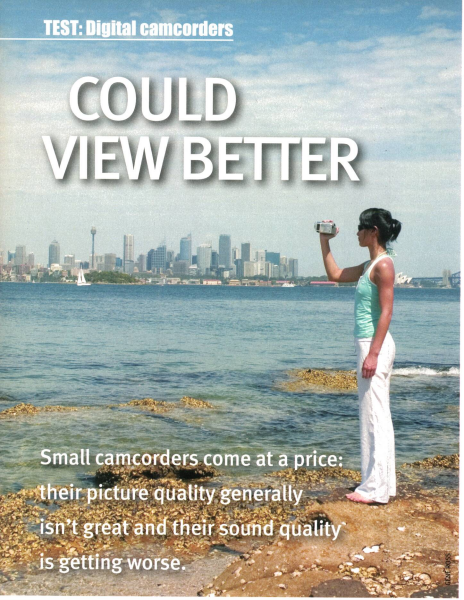
(C) *Also for sale on other websites.*

(D) *The price we paid in July 2005.*

(E) *$13 for a pack of three.*

(F) *$59 for a pack of 12.*

COULD VIEW BETTER



Small camcorders come at a price: their picture quality generally isn't great and their sound quality is getting worse.

IN A NUTSHELL

- **On test:** *27 digital camcorders costing $650 to $2400.*
- **Only the top performers** *provide picture quality comparable to DVDs.*
- **The built-in microphone** *often records the camcorder's running noises. Using an external microphone helps in most cases — if the model lets you attach one.*

Since our last test in early 2005, digital camcorders have generally become more affordable (there are nine models under $1000 in this test) and lighter (almost all models weigh under 600 g). There's also a new recording system: two of the tested models record on a memory card in a similar way to digital cameras.

SAME OLD PROBLEMS

The main quality issues we raised last time are still valid.

- **Picture quality.** While the digital picture quality is much better than that of the old analogue camcorders, many of the tested models don't fully use the potential of the technology, for example lacking sharpness or not recording true colours. Only the top scorers record video in a quality similar to that of a commercial DVD player.
- **Sound quality:** Only a few of the built-in microphones provide good sound quality — most camcorders suffer from their small size and can't avoid recording disturbing running noises from the tape or disc drive, or the zoom motor.

On most models this can be improved by using an external microphone, and if good-quality sound's important to you or you expect to make many 'natural sound' recordings (without voiceover, background music or similar), we recommend you look for a model that lets you connect one.

WHAT YOU CAN EXPECT

- Most camcorders are packed with generally easy-to-use menu-controlled features and functions. On most models you access the function menus via buttons or a joystick. Some have a touchscreen monitor, which is usually a bit slower, and you're likely to end up with fingerprints all over the screen.
- The ability to play back your recordings on your TV, and to transfer them to a computer for near-professional editing (if you have the necessary software) without loss of quality.
- The ability to take still photos on the tape/DVD and/or a memory card (except the **CANON MV800i**). Still photo recordings on tape are generally of poor quality. But even when recording on a memory card, the photo quality is generally worse than that of a good digital still camera — not only because of the usually lower resolution, but also because the same lens system is used for video and still photo recordings, which leads to compromises with the exposure and white balance settings. The **PANASONIC NV-GS250** was the best for still picture quality.

WHICH CONNECTION?

Depending on how you want to use your camcorder, you need the following connections.

- **Television**

Playing back your recordings on most TVs requires the digital video to be translated into analogue signals, which means a loss of quality.

All the camcorders have a standard audio/composite video (AV) output and come with an AV cable you can connect to your TV. Some (see the table, page 47) also have a higher-quality S-video output. But to use this you need a TV or VCR with S-video input, and a special S-video cable.

If the camcorder has AV or S-video inputs (see the table), you can use it to record TV programs or digitise your analogue VCR recordings (for example, if you want to edit them digitally, or for safer storage).

- **Computer**

You can transfer your recordings digitally to your computer without loss of quality. All the tested models except those that record onto memory card or DVD have a digital video (DV or 'firewire') output. You need a fairly powerful computer and special software (provided with almost all the camcorders) to transfer video recordings.

On models with a DV input (see the table), you can also transfer your edited recordings from the computer back onto tape without loss of quality.

If you can't use the digital video connection, the USB connection available on all but the **CANON MV800i**, **HITACHI DZ-MV730E** and **SONY DCR-DVD602** is the next best option. But the transfer is much slower and involves a loss of quality. USB is mainly used for the transfer of still photos from the memory card to the computer.

CAMCORDER SYSTEMS

If you want to buy a camcorder, you're faced with a range of different systems:

- **Mini DV**: This is currently the most common digital format. Small cassettes allow very compact camcorders, and a standard tape can store 60 minutes of high-quality video.
- **Digital-8**: Uses analogue Hi-8 tape (making Digital-8 models bulkier than other digital camcorders), but digital recording technology. A 90-minute Hi-8 tape can store 60 minutes of high-quality digital video.
- **Built-in memory/memory card**: The **SAMSUNG VP-X110L** records video on its built-in 1 Gb memory card (22 minutes of high-quality video recording time) or a memory card you need to purchase separately. The **JVC Everio GZ-MC200** has a 4 Gb 'microdrive' (memory card), recording about 60 minutes of high-quality video. You need to use the software that comes with these models to edit your recordings on a computer.
- **DVD:** Uses either an 8 cm DVD-RAM, a DVD-RW/DVD+RW or a DVD-R instead of a tape to record video and photos (see the table for which model can record on which disc type). All but the DVD-R can be recorded on many times. The DVD-RAM can store 36 minutes of video on the best-quality setting (18 minutes on each side, and you have to turn the disc), the others only 20 minutes.

DVD-RW/DVD+RW discs can be played on most DVD players and computer drives. If your computer has a DVD-RAM or DVD-RAM-playable DVD-ROM drive (common on modern computers), you can play a DVD-RAM disc directly in your computer. If not, you can transfer the video via USB connection. Only a few DVD players can play DVD-RAM discs.

A DVD-RAM is fairly expensive. However, you only need the one supplied with the camera. Once you've edited your recordings, you can save them permanently onto a cheaper DVD-R, which can be played in a computer DVD drive or on a DVD player.

Accessing recorded scenes on a DVD or memory card is much quicker than by winding a tape. And as the camcorder only uses empty disc space for recordings, there's no risk of accidental 'taping' over.

What to buy

The top four models are profiled in rank order.

PANASONIC NV-GS150

System: Mini DV

Price: $1539

Good points

- Very good picture quality.
- Comparatively long recording time.
- External battery charger.

Bad points

- No AV or S-video input, so you can't record TV programs or digitise analogue video recordings.

PANASONIC NV-GS250

System: Mini DV

Price: $1979

Good points

- Very good picture quality.
- Best still picture quality.
- Comparatively long recording time.
- External battery charger.
- AV and S-video inputs.

Bad points

- None to mention.

HITACHI DZ-GX20E

Best of the DVD models

Price: $1799

Good points

- Good picture quality.
- Best autofocus system.
- Comparatively long recording time.
- External battery charger.
- AV and S-video inputs.

Bad points

- Poor still picture quality.
- Only one stereo track, so you can't record music and/or narration as well as the original sound.
- No headphone output.

PANASONIC NV-GS75

System: Mini DV

Price: $1319 BEST BUY

Good points

- Good picture quality.
- Longest recording time.
- External battery charger.

Bad points

- No AV or S-video inputs.

What to look for

If you think a digital camcorder is for you, consider the following before you buy:

- **Which system** do you want (see *Camcorder systems*, page 43, for the differences)?
- Go to a shop and **try out** the models you're interested in, especially if you're left-handed — most models are designed for right-hand use. The **CANON MVX35i, SAMSUNG VP-X110L** and **SONY DCR-PC55** are probably the most suitable for left-handers of those in this test.
- An **external microphone** usually provides better sound quality than a built-in one. So if good audio quality is important to you, make sure the camcorder you're interested in allows you to connect one.
- A **wind filter** improves sound quality in windy conditions. On the **SONY** models, the wind filter can't be switched on and off — the camcorder decides when to use it. The **SAMSUNG VP-X110L** doesn't have one.
- If you're planning to film a lot, you may prefer a camcorder that allows you to remove the battery and charge it in a **separate charger** while you carry on filming with another battery, rather than having to hook up the whole camcorder to the power supply. That's particularly true for models with relatively short battery operating times (see the table, page 46, for battery scores and charging options).

GENE ROSS

FEATURES AND FUNCTIONS

Think about what you need, and make sure the model you're interested in has them all. Some models are packed with features you may never use, so there's no point paying for them.

Accessories

All have:

- Instruction manual.
- Lens protector.
- Rechargeable lithium-ion battery and charger.
- AV cable.
- USB cable (except the **CANON MV800i, HITACHI DZ-MV730E** and **SONY DCR-DVD602**).
- CD-ROM with data transfer and/or editing software (except the **CANON MV800i, HITACHI DZ-MV730E** and **SONY DCR-DVD602**).

In the table:

- Remote control: All remotes let you do most playback functions plus additional functions, some of which may be available via the remote only.
- Accessory shoe: Models with a tick in the table allow you to attach things like an external microphone or a video lamp to the camera rather than carrying them separately.
- Memory card to record photos and (sometimes) video clips.
- Video lamp/photo flash: These allow you to film or take still photos in low-light conditions.

Connections

Think about which connections to your TV and computer you'll use, and make sure the model you're interested in has them. Get all the necessary cables when buying the camcorder. For example, only AV and USB cables come as standard with most of the tested models.

All have:

- Power connection.
- Audio/video (AV) output to play back recordings on your TV.
- All but the DVD and memory card models have a DV (digital video) or 'firewire' output to transfer recordings to a computer for editing.
- A USB connection to transfer recordings to a computer for editing (except the **CANON MV800i, HITACHI DZ-MV730E** and **SONY DCR-DVD602**).

In the table:

- Headphone output: Headphones allow you to monitor the sound quality as it's recorded.
- S-video output: This is a higher-quality analogue output than the standard AV one.

- AV/S-video/DV inputs: You can record from your TV using the AV or S-video inputs. The DV input allows you to record a video back onto tape once you've edited it on your computer.
- Input for an external microphone: On the **SONY** models, this is a custom socket for **SONY** microphones only. All the others have a standard socket.

Displays

All have:

- LCD colour monitor with adjustable brightness. Except the ones on the **JVC Everio GZ-MC200** and **SONY DCR-DVD7**, they can all be swivelled to face forward, so you can easily film yourself.

In the table:

- Colour viewfinder: Using the viewfinder rather than the LCD monitor when recording saves battery power. Some viewfinders in this test are black-and-white, while some models (usually the very small and light designs) don't have one at all. A viewfinder may be awkward to use if you're wearing glasses. However, all the ones in this test are diopter-adjustable to your eyesight (similar to binoculars), so most people will be able to use it without glasses.

Recording functions

All have:

- One charge-coupled device (CCD), which is a chip that turns pictures into digital signals, except the **JVC GR-X5**, **PANASONIC NV-GS75**, **NV-GS150** and **NV-GS250**, and **SONY DCR-PC1000**, which have three — one for each primary colour.
- Volume-adjustable built-in stereo speaker.
- Motor zoom with variable speed, so you can zoom in and out at varying speeds by pressing a button.
- Full auto recording (except **SAMSUNG VP-X110L**): Point-and-shoot function where you don't have to worry about setting anything manually.
- Autofocus and manual focus.
- Image stabilisation: Stabilises the picture in situations where you'd otherwise be likely to produce a shaky recording (such as during telephoto recordings and slow pans).
- Automatic fading (except the **JVC Everio GZ-MC200** and **SAMSUNG VP-X110L**): This function gradually fades out picture and sound, allowing better-quality editing.
- Automatic and manual (except the **SAMSUNG VP-X110L**) exposure setting. The manual function gives you more control over the amount of light entering the lens, and therefore more scope for creativity.
- Automatic shutter speed setting for photo recordings.
- Automatic and manual (except the **SONY DCR-TRV480**) white balance setting. This function adjusts the camcorder to the colour 'temperature' of the environment you're filming in (for example, natural or artificial light) in order to obtain a natural colour balance. You're likely to use the manual setting only in extreme lighting situations.
- Automatic exposure programs (at least four), such as sports or portrait photo. The camcorder will pick a suitable aperture and shutter speed for the selected standard situation.
- Digital picture effects (such as black-and-white, sepia, negative or 16:9 cinema recording). While some models have only one or two effects, most have six or more.
- Long-play mode. This lets you record at reduced speed so you can fit more on a tape. However, the picture quality won't be as good.
- Date/time code (except the **JVC Everio GZ-MC200** and **SAMSUNG VP-X110L**): This feature gives each picture frame an invisible digital marking that allows you to edit very accurately.
- Self-timer (except the **SAMSUNG VP-D352** and **VP-X110L**): Allows you to start recording after a certain time — for example, if you want to film yourself.

In the table:

- Manual shutter speed setting allows more creativity than automatic settings (which all models have) when taking photos.
- Infrared lamp: Most models achieve fairly good picture quality even in quite poor light conditions. Some models have an infrared lamp that allows you to make recordings even in complete darkness. However, this only works well with objects less than about 3 m away, and produces a monochrome (black-and-white or black-and-green) picture.

Playback modes

All have:

- Play, fast forward, rewind, stop, pause.
- Playback search modes (for example, to search for photos on the tape, or a certain date).

Audio

All have:

- Stereo microphone.
- Wind filter (except the **SAMSUNG VP-X110L**).

In the table:

- Audio tracks: Two stereo tracks allow you to record music and/or narration in addition to the original sound recordings.

Brand / model (in rank order)	PERFORMANCE 1 Overall score (%)	2 Picture quality score (%)	3 Sound quality score (%)	4 Ease of use score (%)	5 Versatility score (%)	6 Autofocus score (%)	7 Photo to memory card / DVD score (%)	8 Battery score (%)	9 Recording time (min)	10 FEATURES External battery charger	Remote control	Accessory shoe	
PANASONIC NV-GS150	71	83	56	66	63	77	66	78	129	✓	✓	✓	✓
PANASONIC NV-GS250	70	84	54	65	68	64	71	73	122	✓	✓	✓	✓
HITACHI DZ-GX20E	66	79	55	64	57	81	16	76	123	✓	✓	✓	✓
PANASONIC NV-GS75	66	75	54	63	55	75	63	83	141	✓	✓	✓	✓
SONY DCR-HC42	60	58	56	64	65	62	62	64	105		✓	✓	✓
SONY DCR-HC90	60	61	46	67	69	54	61	63	99		✓	✓	✓
CANON MVX330i	58	51	62	63	66	53	62	55	88		✓	✓	✓
CANON MVX35i	58	65	44	57	69	56	65	40	64		✓		✓
HITACHI DZ-MV780E	57	61	54	65	54	79	12	39	65	✓	✓	✓	✓
JVC Everio GZ-MC200	57	71	48	49	43	60	58	42	66				✓
JVC GR-X5	57	68	40	58	65	57	65	17	45		✓	✓	✓
SONY DCR-DVD803	55	62	26	61	52	62	58 **(A)**	84	137		✓	✓	
SONY DCR-HC21	55	54	55	59	49	62	na	60	97		✓	✓	
SONY DCR-HC32	55	56	51	62	61	65	16	56	94		✓	✓	✓
PANASONIC NV-GS35	53	59	47	50	53	76	12	60	98	✓	✓		✓
HITACHI DZ-MV730E	52	61	51	48	51	66	10	46	78	✓		✓	✓
SONY DCR-DVD703	51	54	38	61	51	64	30 **(A)**	51	82		✓	✓	
SONY DCR-PC1000	51	55	20	62	65	62	61	53	81		✓	✓	✓
SONY DCR-TRV480	50	52	36	60	65	62	16	49	83		✓		✓
SONY DCR-PC55	49	56	23	61	55	61	16	61	101		✓	✓	✓
CANON MV800i	46	47	50	40	37	50	na	55	90				
CANON MV850i	46	46	50	40	57	52	22	55	90		✓		✓
SONY DCR-DVD602	46	43	51	48	42	58	18 **(A)**	67	109			✓	
SAMSUNG VP-D352	41	38	39	40	49	45	na	45	76				
SAMSUNG VP-D453	41	38	31	58	59	39	0	47	81		✓		✓
SONY DCR-DVD7	41	47	14	56	38	61	18 **(A)**	63	101		✓		
SAMSUNG VP-X110L	33	25	29	53	36	44	8	24	52				✓

* *Including battery, recording medium and hand strap.*

** *In transport position, with battery and hand strap; rounded up to the next 0.5 cm.*

† *Recommended retail, provided by manufacturers in Sept/Oct 2005.*

na *Not applicable; doesn't record photos onto memory card or DVD.*

ns *Not stated.*

(A) *Based on recording photos onto the DVD.*

(B) *4 GB 'microdrive' (memory card).*

(C) *Plus 1 GB internal memory.*

(D) *S-video connection needs a special Sony cable; the microphone socket fits Sony microphones only.*

(E) *DV input at docking station.*

(F) *Black and white.*

(G) *DVD-RAM / DVD-R.*

(H) *DVD-RW / DVD+RW / DVD-R.*

(J) *Lets you play analogue Hi-8 tapes too.*

(K) *Memory card or built-in memory.*

1 Overall score

The overall score is a combination of the following:

- Picture quality: 35%.
- Sound quality: 20%.
- Ease of use: 20%.
- Versatility: 10%.
- Autofocus: 5%.
- Photo to memory card/DVD: 5%.
- Battery: 5%.

2 Picture quality score

The main picture quality assessments were:

- A viewing panel assessed the sharpness, colour and overall image quality of recordings in daylight and artificial light.
- A panel assessed macro recordings, recordings made in low-light conditions and — where applicable — at night.
- Resolution (picture sharpness).
- On all the tested models you can activate a function that stabilises the picture in situations where you'd otherwise be likely to produce a shaky recording (such as during telephoto recordings and slow pans). We checked how well the function works, and whether the stabilising effect has any negative impact on picture quality.

3 Sound quality score

A panel assessed the quality of speech and music recorded with the built-in and an external microphone (on models that have a standard connection for one). We also looked at the recorders' sensitivity to wind noise.

4 Ease of use score

A user panel assessed the instructions, the ease of various recording and playback functions, the quality and functionality of the viewfinder, LCD monitor and remote control, the portability of the camcorder, and data transfer to a computer. We also measured the time delay between switching the recorder on and being able to use it.

5 Versatility score

We assessed the cameras against a list of about 50 features and functions.

6 Autofocus score

A panel assessed the quality of the autofocus system during normal recording and recording under poor light conditions.

SPECIFICATIONS

Video lamp / photo flash	Headphone output	S-video output	AV / S-video / DV input	Input for external microphone	Colour viewfinder	Manual shutter speed setting	Night shot (IR light; mins)	Stereo audio tracks	11 System	LCD monitor (W x H, mm)	Weight (g)**	Dimensions (W x H x L, cm)**	12 Max. zoom factor (optical / digital)	Origin	Warranty (years)	Price ($)†
–/✓	✓	✓	–/–/✓	✓	✓	✓		2	Mini-DV	49 x 37	509	8 x 7.5 x 13.5	10 / 500	Japan	1	1539
–/✓	✓	✓	✓/✓/✓	✓	✓	✓		2	Mini-DV	49 x 37	603	9 x 8 x 15.5	10 / 500	Japan	1	1979
–/✓		✓	✓/✓/–	✓	✓			1	DVD **(G)**	49 x 37	572	6.5 x 9 x 16	10 / 240	Japan	1	1799
–/–	✓	✓	–/–/✓	✓	✓	✓		2	Mini-DV	49 x 37	500	8.5 x 8 x 13.5	10 / 500	Japan	1	1319
–/–		✓ **(D)**	✓/✓/✓ **(E)**	✓ **(D)**	✓		✓	2	Mini-DV	58 x 32	475	6.5 x 9 x 12	12 / 480	Japan	1	1199
–/✓		✓ **(D)**	✓/✓/✓	✓ **(D)**	✓		✓	2	Mini-DV	58 x 32	520	8 x 9.5 x 11.5	10 / 120	Japan	1	1599
✓/✓	✓		✓/–/✓	✓	✓	✓		2	Mini-DV	49 x 37	578	8 x 8 x 14	18 / 360	ns	ns	1099
✓/✓	✓	✓	✓/✓/✓	✓	✓	✓		2	Mini-DV	49 x 37	550	7 x 11 x 11	10 / 200	ns	ns	1999
–/–		✓	✓/✓/–	✓	✓			1	DVD **(G)**	49 x 37	483	9 x 6.5 x 13.5	10 / 240	Japan	1	1449
–/✓	✓	✓	–/–/–			✓		1	Memory card	36 x 27	362	7 x 5.5 x 10	10 / 200	ns	ns	1749
–/✓	✓	✓	✓/✓/✓	✓		✓		2	Mini-DV	49 x 37	590	9.5 x 9 x 10.5	10 / 300	ns	ns	2399
–/✓		✓ **(D)**	✓/✓/–	✓ **(D)**	✓		✓	1	DVD **(H)**	58 x 32	620	6.5 x 9.5 x 15	10 / 120	Japan	1	1999
–/–		✓ **(D)**	–/–/–		**(F)**		✓	2	Mini-DV	50 x 37	470	6.5 x 9 x 12	20 / 800	Japan	1	749
–/–		✓ **(D)**	✓/✓/✓ **(E)**		**(F)**		✓	2	Mini-DV	50 x 37	470	6.5 x 9 x 12	20 / 800	Japan	1	999
✓/–		✓	–/–/✓	✓	✓	✓		2	Mini-DV	51 x 36	480	8 x 8.5 x 13.5	30 / 1000	Japan	1	989
–/–		✓	✓/✓/–	✓	✓			1	DVD **(G)**	49 x 37	505	9.5 x 6.5 x 15	16 / 240	Japan	1	999
–/–		✓ **(D)**	✓/✓/–	✓ **(D)**	✓		✓	1	DVD **(H)**	58 x 32	498	6.5 x 9 x 13.5	12 / 480	Japan	1	1599
–/✓		✓	✓/✓/✓ **(E)**	✓ **(D)**	✓			2	Mini-DV	58 x 32	482	6 x 12 x 10.5	10 / 120	Japan	1	1999
✓/–			✓/–/✓		**(F)**		✓	2	Digital-8 **(J)**	50 x 37	930	9 x 10 x 16.5	20 / 990	Japan	1	729
–/–		✓ **(D)**	✓/✓/✓ **(E)**	✓ **(D)**				2	Mini-DV	60 x 45	380	4.5 x 10 x 7.5	10 / 120	Japan	1	1299
✓/–			–/–/–		✓	✓		2	Mini-DV	47 x 35	500	6.5 x 9.5 x 14	20 / 400	ns	ns	729
✓/–			✓/–/✓		✓	✓		2	Mini-DV	47 x 35	503	6.5 x 9.5 x 14	22 / 440	ns	ns	949
–/–		✓ **(D)**	–/–/–	✓ **(D)**	**(F)**		✓	1	DVD **(H)**	50 x 37	495	6.5 x 9 x 14	20 / 800	Japan	1	1199
–/–		✓	–/–/–	✓	**(F)**	✓	✓	2	Mini-DV	48 x 35	481	7.5 x 9.5 x 12.5	20 / 900	Korea	1	649
✓/–		✓	–/–/–	✓	✓	✓		2	Mini-DV	50 x 37	430	6.5 x 8.5 x 12	10 / 900	Korea	1	899
–/–		✓ **(D)**	✓/✓/–					1	DVD **(H)**	50 x 37	442	13 x 10.5 x 5	10 / 120	Japan	1	1299
–/✓	✓		✓/–/–					1	**(K)**	41 x 30	159	3 x 9.5 x 6.5	10 / 100	Korea	1	1299

7 Photo to memory card/DVD score

A panel assessed the quality of still photos recorded on memory card or DVD (where applicable). Still photo recordings onto tape are generally of poor quality and weren't assessed. We also looked at the shutter delay, and the transfer speed to a computer using USB and DV connections.

8 Battery score

We measured how long the camcorders' batteries lasted using a recording and playback test cycle simulating typical user behaviour.

9 Recording time

The camcorders were set to full-auto recording mode, with the monitor, autofocus and image stabiliser switched on. Every five minutes the zoom was operated three times across the whole range and back, until the battery was empty and the camcorder switched off.

Almost all the batteries only lasted for 1–1.5 hours of recording, so you may want to buy a second one.

10 Features

See *What to look for*, page 44, for explanations of these and other features.

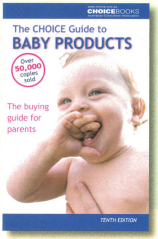
11 System

See *Camcorder systems*, page 43, for an explanation of the differences.

12 Zoom factor (optical/digital)

The optical zoom factor describes what you're used to from photo cameras. The higher the number, the bigger the zoom range. Within the limits of the lens, using the optical zoom won't decrease picture quality, and you can stabilise the picture with the image stabiliser.

With the digital zoom you can select a part of the picture and enlarge it digitally. The more you enlarge, the grainier the picture gets. So while a digital zoom factor of 500 or more may sound impressive, don't expect a sharp recording when using it.



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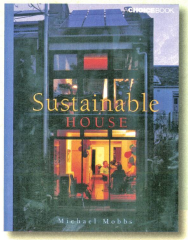

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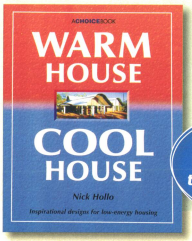

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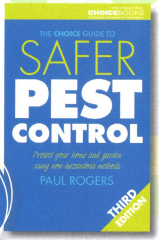

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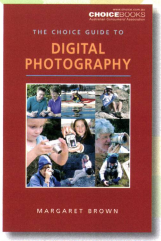

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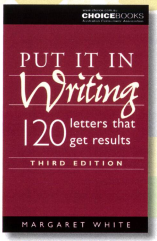

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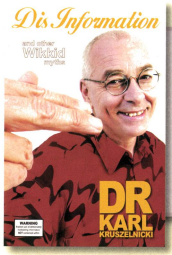

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Companies often rent 1800 numbers for a couple of months after a recall is announced. If the number given is no longer operating, phone the manufacturer or retailer direct.

MEDICINE: Rawleigh has recalled **Rawleigh Pleasant Relief**, 200 mL bottle, expiry date March 2007, AUST R 17781, batch #5B993. The batch number can be found on the bottom right-hand side of the label, below the printed panel headed 'Active Constituents'.
The problem: The ingredients may not have been adequately mixed.
What to do: Don't use it. Contact your Rawleigh's distributor to arrange a refund or replacement, or for more information call (02) 9634 7600.

BABY CLOTHES: Coles Supermarkets, Pick 'n' Pay and **Coles Online** has recalled **Coles Baby Infants Romper** (jumpsuit), sold with a matching hat. It comes in a variety of colours with animal motifs on the front of both legs or with an all-over print. It has long sleeves, long legs with feet and full front snap opening, and was sold in Coles stores and Pick 'n' Pay in Queensland and through Coles Online since February 2005.
The problem: The snap buttons may break and detach without substantial force, and are a choking hazard for young children.
What to do: Stop using it. Return it to your local store for a refund, or for more information call 1800 061 562.

BABY CLOTHES: Best & Less has recalled **Baby Baby Infants pack of three rompers** (jumpsuits). They come in a variety of colours and prints, all with an envelope neck. The boys' rompers have a cap sleeve, while the girls' have cap-sleeve and singlet-sleeve rompers included in the pack. They were sold in Best & Less stores nationally.
The problem: The snap buttons may break and detach without substantial force, and are a choking hazard for young children.
What to do: Stop using them. Return them to your nearest Best & Less store for a refund, or for more information call 1800 650 811.

HIGH CHAIR: Love n Care has recalled the **Portbebe high chair**.
The problem: Minor cracking may develop in the top leg supports.
What to do: Stop using it. Return it to the place of purchase for a refund.

YO-YO: Coast to Coast Imports has recalled **Lightup Jellyfish Yo-Yo**, 15 cm x 24 cm, pink, green, yellow and orange in colour, item number NO0018, sold in WA.
The problem: It poses a choking hazard.
What to do: Remove it from the reach of young children. Return it to the place of purchase for a refund.

FOOD: T & D Trading has recalled **Pati Tong Shrimp Paste**, 227 g plastic jar, best-before 18.07.07; **Aroy-D Mussaman Curry Soup**, 400 g can, best before 02.07.07; and **Loong Heed Instant Tai Pla (Fish and Spice) Paste**, 220 g glass jar, best before 31.12.07; all sold in the Brisbane metropolitan area.
The problem: Tests have indicated possible microbial contamination.
What to do: Don't eat them. Contact your doctor if you've eaten them and have health concerns. Return them to the place of purchase for a refund, or for more information call (07) 3277 1799.

FOOD: Gold Coast Bakery Queensland has recalled **Vogels Fruit and Nut Bread**, 750 g, all best-before dates between 10/9/05 and 3/10/05 and distributed through Woolworths, Coles and IGA in NSW and Queensland.
The problem: There's a possibility of soft-plastic contamination.
What to do: Check your freezer for this bread. Return it to the place of purchase for a refund.

FOOD: Coles Supermarkets has recalled **Coles Farmland Tropical Muesli**, 750 g plastic bag, best before 02/06/06, product number 9300601006281, sold in Coles, Pick 'n' Pay and Coles Online.
The problem: It contains peanuts and various tree nuts, but the label indicates it may only contain traces of nuts.
What to do: Don't eat it if you have an allergy to peanuts or tree nuts. Return it to the place of purchase for a refund, or for more information call 1800 061 562.

FOOD: Connoisseur Foods has recalled **Marinated Baby Bocconcini cheese**, 350 g plastic jar, best-before dates 29 Dec 05 and 2 Jan 06.
The problem: It may contain *Listeria monocytogenes*, which may cause illness or miscarriage in pregnant women, or illness in young children, the elderly or people with a low immune system.
What to do: Don't eat it. Return it to the place of purchase for a refund, or call (02) 9643 8355 for more information.

FOOD: General Mills Australia has recalled **Betty Crocker Chocolate Caramel** muffin mix, 500 g cardboard packet, best-before date 10 08 2006, lot code 10082006.
The problem: It may contain walnuts and traces of peanuts, hazelnuts, almonds, brazil nuts and cashew nuts, which aren't declared on the labelling.
What to do: Don't eat it if you have an allergy to the above nuts. Return it to the place of purchase for a refund, or for more information call 1800 800 424.

AC adaptor: Sony Computer Entertainment has recalled the **AC adaptor** sold with the **slimline PlayStation 2**. The affected adaptor has the code HP-AT048H03 and was supplied with black slimline PlayStation 2 models SCPH70002, 70003 and 70004. It has a date code of 2004.08, 2004.09, 2004.10, 2004.11 or 2004.12.
The problem: It may overheat and cause a fire or scorching hazard.
What to do: Unplug the PlayStation 2 from the mains power supply and discontinue use until the adaptor is replaced. Don't return the adaptor to the place of purchase, but instead go to www.au.playstation.com/recall or call 1800 823 133 to arrange a replacement.

DISHWASHER/WASHING MACHINE: LG has recalled **LG dishwashers**, model numbers LD-12AS1, LD-12AW2, LD-14AW1, LD-14AT1, LD-14AW2, LD14AT2 and LD-4050W, serial number range 111KW00001 to 306KW99999, manufactured between November 2001 and June 2003; and **LG washing machine**, model number WD-8013F, serial number range 204KW00001 to 306KW99999, manufactured between April 2002 and June 2003.
The problem: The solder joints in some circuit boards may overheat and cause a fire.
What to do: Don't use it while unattended. Call 1800 506 154 or go to www.lge.com.au to arrange to have the circuit board replaced at no charge. You'll need to provide the model and serial number.

GAS GRILL: Coleman Brands has recalled **Coleman Road Trip** and **Road Trip Sport Portable Gas Grills**, model numbers 9944-851A and 9941-768A.
The problem: The fitted gas regulator may leak propane because of an improper seal within the regulator assembly.
What to do: Stop using it. Call 1800 330 086 for more information.

GAS APPLIANCES: Cape Trading Sales has recalled the **OIC LP gas regulator and 8 mm hose assembly, Overseas Model RA201**, supplied with the following outdoor gas appliances, bought between 1 December 2003 and 31 December 2004, with a production date of 07/2003, 03/2004, 04/2004, 05/2004, 06/2004 or 08/2004 branded on the hose section:

- **Garden Flame Patio Heater**, models SV01, PV01.
- **Gasmate Patio Heater**, PH200 series, PH300 series, PH900 series, PH1000 series, TTH20 series and TTH60 series.
- **Gasmate Barbecue Getaway Series**.
- **Gasmate Barbecue Waverley** four-burner barbecue.
- **Portable 3-way fridge**, model AC-PRO XC-35L and XC-35LPP.
- **Jumbuck Patio Heater**, models JM7010104, JM7015104 and JM7050104.
- **Jackeroo Patio Heater**, KP60 series.
- **Star Patio Heater**, models SPH1000 and STTH20.

The problem: The LPG regulator and hose assembly may separate under pressure, causing a risk of injury.
What to do: Call 1800 304 419 between 8 am and 5.30 pm EST to arrange a free replacement hose and regulator assembly. Owners of appliances listed but purchased outside the above dates are also advised to check the regulator and hose fitted, and call the above number if you're concerned.

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* indicates an update of a previous report, additions or corrections to reports, small follow-up items, letters or recalls.
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DON'T FORGET TO USE PROTECTION

This one's mystified several readers over the years: what exactly does the Orphea Fabric Protector protect fabric from? Despite several mentions of protection, nowhere on the packaging does it spell out the menace it's addressing. Water? Mould? Moths? Fire? Fashion police?

25% MORE CONFUSING

We found these original and "new larger size" **CUDDLY** concentrate packets puzzling on several counts. First, you get 300 mL of concentrate, instead of 250 mL. But that's only 20% more — we're not quite sure where "25% more softening" comes into it.

Then the original and "new" concentrates both make up 2 L of reconstituted (final) product — so you don't end up with 25% more final product. However, it suggests the new final product may be more concentrated than the old.

But the plot thickens (while the **CUDDLY** apparently doesn't) when we note that with the new package you use 100 mL of the final product per wash, whereas with the original package you only used 80 mL.

But therein, of course, may lie the answer to the "25% more softening" mystery: assuming the new and original final products are somehow equally concentrated, by using 100 mL instead of 80 mL — 25% more — the softening effect may be increased. Perhaps even 25% more softening?

Ideal for making an itsy bitsy, teeny weeny bikini?

'Huge 17" screen' apparently means a 19" screen

Growing up fast?

What's the point of a 'pram pillow' that's not suitable for babies under three? If you're older than three you're unlikely to be using a pram.

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HOW ABOUT A LITTLE HELP?

The prize for the best entry goes to D Limn. Thanks also to T Olthoff, J Pederick, N Woodforde, A Janz and J Lloyd for their contributions to this month's *Hard Word*. Please keep them coming.

If you have any examples you think deserve to be on this page, send them to *The Hard Word*, CHOICE, 57 Carrington Road, Marrickville 2204. Please don't email us your entries — we need the originals.